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Printed for **The
MANUAL
of
SURGERY**

OR, THE
YOUNG SURGEON'S
POCKET ASSISTANT.

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BERLAND FREEMASON SCHOOL, AND LATE
SURGEON TO THE PORTUGUEZE HOSPITAL, &c.

LONDON:

PRINTED FOR JAMES RIDGWAY, YORK-
STREET, ST. JAMES'S-SQUARE.

(Price Six Shillings bound.)

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The
MANUAL
of
SURGERY
P R E F A C E.

THE present Volume solicits the attention of Practitioners in Surgery, not from its containing any new discovery, or original improvement in the art; but as a collection of such rules, precepts, and observations, which the best authors have taught, and experience has sanctioned.

They were originally compiled for my own assistance in practice, and never intended for publication; but several intelligent surgeons having seen the manuscript, and suggesting, that

that such a collection of surgical facts would form a desirable *Vade Mecum* to Practitioners, I, with much diffidence, now lay them before the public.

As a compilation, it certainly cannot afford any information to the experienced surgeon; but to Students, and the younger part of the profession, particularly those in the army and navy, who, perhaps, neither have the means nor the opportunity of access to more elaborate and systematic works, I have been tempted to think, this Selection may be of considerable utility. Perhaps, on an emergency, the experienced surgeon may recur to it with advantage.

To Dr. Wallis's improved edition of Dr. Motherby's very excellent Medical Dictionary, I am indebted, for the arrangement I have adopted; as also, for many valuable facts: these are detailed nearly verbatim.

In treating of Dislocations, Fractures, Ulcers, and Wounds; likewise, in describing the different Operations, I have almost invariably followed the accurate and judicious

Mr.

Mr. Bell; where I have presumed to vary from this able surgeon's mode, it has been, from having seen such variation practised by the most eminent in the profession in this kingdom, and, in some instances, from having successfully pursued such method myself. The many additional important particulars, which I have collected from various other writers, are acknowledged in their respective articles.

From a publication of this kind, I cannot expect to acquire celebrity. The utmost praise to which I can aspire, is, that of having formed a useful *Surgical Manual*; in the attainment of which, I shall be amply gratified.

BENJAMIN LARA.

London.

E R R A T A.

In article Abscess of the Diaphragm, for vide Diaphragmatis, read vide Paraphrenitis.

For article Achyls, read Achlys.

In article Bubonocele, for vide article Gastroraphia, read vide article Wounds of the Alimentary Canal.

In article Cirfocele, for avarice, read a varix.

The references made to various authors, at the conclusion of article Dislocations of the Ribs, should have been printed at the end of article Dislocations of the Os calcis, &c.

A DICTIONARY

OF

S U R G E R Y, &c.

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ABCESSIO } an *Abscess*; from *abscedo*, to depart;
ABCESSUS } or from *abs*; and *cedo*, to retire. A cavity formed in the cellular membrane, by a separation of the parts which were joined, containing pus, or a collection of matter, resulting from inflammation.

The matter in *abscesses*, is formed by the heat of the parts acting on the humour collected there, and dissolving the adjacent fat; and the concoction of these fluids, is also effected by the same heat. Mr. Dease, in his Introduction to the Theory and Practice of Surgery, p. 36, thus describes the formation of matter in *abscesses*:

" The inflammation being now at the highest, and the different series of vessels loaded with fluids, still urging to the point irritated, the heat developed by the attrition between the solids and fluids, will, by rarifying the latter, distend the former, and dilate the exhalent vessels; by which means there will be an exudation of serous humours into the cellular and adipose interstices, whose texture in part will gradually be dissolved, the coats of the small vessels slough off, and the different series of humours being broke down and fermenting, will form, by a new

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combination,

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combination, a white, opaque, unctuous liquor, without any offensive smell, termed pus. This matter, in circumscribed tumours, will occupy the centre; but, in extended inflammations, we often find many points of suppuration, which running into one another, form large cavities and different sinuses in the cellular and adipose membrane."

The inflammatory heat increasing, during three days, in opposition to the usual means, a suppuration will certainly follow. If the patient complains of frequent shiverings, a formation of pus is certainly commenced. This shivering is produced by the absorption of some of the pus, or its thinner parts; but, when the matter is inclosed in a cyst, or surrounded with an inflammatory matter, this absorption rarely or never happens. In the cellular membrane is lodged many vessels for the secretion and distribution of fat, and many other vessels pass through it in their way from one part to another. This membrane easily tumifies, and, being very slight, as easily divides, by which a cavity is formed, and in it is deposited all that constitutes the subsequent discharge. Farther, by the rupture of the cellular membrane, the parts which were connected are separated, and their tension removed, the many blood-vessels, which before were compressed, are freed, the blood circulates freely, the heat abates, the part is less red, and gradually becomes more soft.

The progress of an abscess on the external parts of the body, is generally as follows: the tumour, the heat, pain, and redness increase; a pulsation is also perceived, a fever sometimes attends, which is increased every night: when the contents are all supplicated, the pricking pain gives way, and an itching, with a growing numbness, is complained of, the hardness of the part at length yields to the touch, and the skin bursting, gives vent to the contained matter.

An

An *abscess* should be carefully distinguished from a hernia, an aneurism, and from a varicous tumour.

If during the treatment of an *abscess*, the patient is sleepless and feverish ; if he breathes with difficulty and loathes his food ; if the pus, when discharged, is ill-coloured, fetid, and sanguous ; if eruptions of blood or spongy flesh appear in the cavity of the ulcer ; if faintings come on during, or after the times of dressing, the prognostic is unfavourable : on the contrary, if these symptoms are absent, or but in a moderate degree, a favourable issue may be expected. By improper treatment a phlegmon is easily converted into a sphacelus. Deep seated *abscesses* are sometimes difficultly discovered by the touch ; but as no considerable suppuration can happen in the body without being soon after accompanied with a hectic fever, the slightest appearance of it at once determines the case.

When suppuration is to be promoted, endeavour to effect the following intentions, viz.

1st, To convert into pus the congested humours.
2dly, To assist the discharge of the matter when it is duly digested.

3dly. To heal up the opening, or *ULCER* ; for thus the *abscess* is denominated when the matter is discharged.

In order to accomplish the first intention, repellents must be avoided ; for their use at this time may convert the suppurating tumour into a scirrhus, or other incurable induration ; for this reason, camphorated spirit as a topic, and high cordials when the inflammation is internal, are alike improper. In general, apply to the tumour such things as gently stimulate and moisten ; such also as obstruct the pores, and thus prevent the passage of the finer parts in their attempts to escape through the skin ; to these ends, the white bread poultice will suffice, if applied warm every two, or at most, three

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hours. This application for its neatness, cleanliness, and freedom from offensive smells, is deservedly to be preferred; yet at discretion may be added a small portion of the roots of lilies, the ointment of yellow resin, or of the best gum galbanum. In slighter cases, where the part is not too tender, or in some sluggish tumours with but little pain, a plaster of the gum galban. colat. or empl. gummi, may be applied alone, and renewed every four or five days; and to expedite its efficacy, a warm poultice may be laid upon it twice in the day.

During the use of external applications, the state of the constitution must be attended to; too much heat may occasion mortification, and too little will render every attempt ineffectual. If the heat is high, bleeding and cooling regimen must be employed. Avoid cathartics; but in case of costiveness, use an enema. When the heat is not adequate to the promotion of the suppuration, cordial medicines, and generous diet is required.

To effect the second intention, the whole of the tumour, or nearly so, must be converted into pus, before a discharge can be admitted; for otherwise all that remains unsuppurated will digest with difficulty, and often will become a faulty ichor. Again, if a due discharge is not obtained as soon as the pus is perfected, it putrifies and forms a fistula, &c. or it will be absorbed, and cause a hectic fever. The time of opening is generally to be known by the prominence observed being very thin, by the matter fluctuating on the lightest pressure, and an abatement of the pain, heat, and pulsation in the part.

Abscesses, are opened either by incision with the knife or lancet (but never with scissars, as they bruise in cutting) or the caustic; but incision is to be preferred. The opening may be as far as the skin is discoloured, or a circular piece may be taken out if the discolouration spreads. The opening must be, if possible,

possible, in a depending part, though where nature points out, the operation should be performed. When the bad quality of an *abscess* is likely to retard its future incarnation, an opening made by a caustic, best prevents the lips of the wound from growing callous. Venereal buboes, and some scrophulous tumours, if not in the face or neck, are soonest healed after opening with a caustic; and such of these as neither will give way to suppurating nor discutient medicines, are effectually destroyed by caustics, and the eschar is soon cicatrized. For the application, &c. of a caustic, vide article **ESCHAROTICA**.

Many advise not to open critical *abscesses* before they are digested. Sharp says, that "Very little of the morbid matter is deposited in them before they are fully ripe, therefore till then should not be opened." It is certain, that by a premature discharge, the ulcer becomes foul, and heals with difficulty.

When the knife is used, if a nerve, vein, or artery is in danger, let a director guide the incision, which is best begun on the lower side, for then the matter is discharged most freely, and the operator least incommoded by it. If possible, its course should be according to that of the fibres of the subjacent parts: thus, if the skin is very near a nerve, the use of the part will not be injured by cutting it across.

As to the third intention, it may be observed in general, that when the opening and discharge are made, the case is considered as a common wound, and the treatment is as directed in the article **VULNUS**. The first dressing may be dry lint, covered with pledgets of soft tow. Afterwards, if the part is tender, and the matter good, when the applications are removed, be content without wiping it very clean. Pledgets that are spread with ointments need not be warmed, except the patient complains of their being cold, then hold them to the fire, but not so long as that their surfaces will melt. Observe a

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proper posture to favour the discharge. Repeat the dressings once or twice a day, as the quantity or quality of the discharge may require. The greater distance of time between each dressing, the sooner will the cure be perfected. Avoid unnecessary delay in dressing as the air is prejudicial. Vide *Bell*, on *Ulcers*, p. 54. 93. 3d. edition. Also *Kirkland's Medical Surgery*, Vol. ii. p. 49. 62.

An ABSCESS in the *Maxillary Sinus*, called the *Antrum Highmoranium*. Drake mentions this as a species of ozæna. It is known by a pain which is deep seated in the cheek, and a tumour there, on the outer and upper part; a discharge of offensive matter from the nostril of the affected side, especially on inclining the head to the side that is found; sometimes the breath is rendered very disagreeable by the caries produced in the teeth by this disorder. Mr. John Hunter observes, in his *Natural History of the Human Teeth*, part ii. that, "The pain in this disease is at first taken for the tooth-ach; however, in these cases, the nose is more affected than is observed in the tooth-ach. The eye is also affected, and it is very common for people with such a disease to have a severe pain in the forehead, where the frontal sinuses are placed; but still these symptoms are not sufficient to distinguish the disease. Time must disclose the true cause of the pain, for it will commonly continue longer than that which arises from a diseased tooth, and will become more and more severe; after which, a redness will be observed on the fore-part of the cheek, somewhat higher than the roots of the teeth, and a hardness in the same place, which will be considerably circumscribed; this hardness may be felt rather highly situated on the inside of the lip." The method of cure by drawing one of the *dentes Molares* from the affected side was first proposed and practised by *Drake*, and his improvement has been continued with the happiest success.

Draw

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Draw the last tooth but one ; and if rotten, draw the next on each side it, then through their sockets make a perforation into the antrum with a large awl ; the matter being discharged, the cure may be finished by injecting a mixture of aq. calcis, tinct. myrrh. and mel rosæ twice a day into the cavity, and retaining it with a tent. See *Gooch's Cases and Remarks*, in which an extraordinary instance is related, with the ingenious and successful mode of treatment. Mr. *John Hunter* proposed to effect the cure thus : 1st, if the disease is known before the destruction of the fore part of the bone, make an opening through the partition, between the antrum and the nose ; or, 2dly, by drawing a tooth, as above : the latter method he prefers. Vide *Bell's Surgery*, vol. iv. p. 209 ; and *Kirkland's Medical Surgery*, vol. ii. p. 150.

An ABSCESS of the Anus. A large quantity of fat fills up the cavity on each side of the anus, and is the seat of this disorder.

The causes are various, as *contusions*, *wounds*, *inflammations*, *difficult labour*, *hard riding*, *a dysentery*, *the venereal disease*, &c.

Abscesses sometimes are suddenly formed in this part ; at others, they advance very slowly. *In the first case*, the appearances are in the beginning like those of a common boil ; but the symptoms soon increase, and quickly proceed to a more formidable state. *In the latter*, though the suppuration makes but little progress, the pain and tumour suffice to determine the nature of the complaint.

The pus, whether it makes its way through the skin or through the intestines, is frequently so tedious in its passage, that the adjacent fat is more or less corroded, and rendered sinuous, whence sinuses are formed of different shapes and sizes. Sometimes the maturation is extended on every side, rendering the cure both difficult and uncertain. When *abscesses* in

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in this part are left to themselves, they rarely fail to degenerate into fistulas, and occasion troublesome callosities.

The tumour being formed, every means must be employed to procure a speedy suppuration. This, in some degree advanced the matter must be quickly discharged. To this end, let the patient stand on the ground with his feet asunder, and lean over a table upon his belly. Then by introducing a finger into the *anus*, a fluctuation of matter will be perceived; in which case, though no external signs of suppuration appear, an opening must be made into it with a knife. In order to determine where to make the puncture, press the finger in the *anus* on the *abscess*, and another on the external part, by which means the *pus* will be so directed, as to be perceptible externally. When the opening is made, endeavour to enlarge the wound in withdrawing the knife; and for better application of dressings to the bottom, another incision may be made transversely. If the rectum is laid bare, an incision must be made into it, as far as the denudation extends, in order to its reunion with the adjacent parts, for the regeneration of flesh on the surface of an intestine when deprived of its fat, is obtained with great difficulty. When the matter surrounds the *anus*, a cure is hardly to be performed without removing the denudated part. For an extraordinary instance of this kind, *vide*, Med. Mus. vol. iii. p. 251. 257.

A proper opening being made, the dressings, &c. are as in *abscesses* in general. It is, however, observed by *Ætius*, that when this disorder extends round the *anus*, there happens a constriction of the circumjacent parts, and an obstruction of the passage of the *anus*, while the wound is filling up; to prevent which, he advises the introduction of a canula, and to continue it till the cure is perfected. But how far a good habit of body, and other favourable circumstances,

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circumstance, may encourage hopes of success this way, the practitioner can only determine by occurring circumstances, and his own experience.

When the cause is *venereal*, these tumours suppurate but slowly; and without a gentle mercurial ptyalism, a cure is rarely effected. Vide *Kirkland's Med. Surgery*, vol. ii. p. 201.

An ABSCESS in the Arm-pit. *Abscesses* are often formed by injuries in the arm, hand, or fingers; sometimes a fever at its crisis lodges matter here, and when the fever is of a malignant kind, these tumours suppurate but slowly. When ripe an opening should be made with the caustic. This disorder when it terminates the plague, is usually called a *bubo*, which see. Also *ABSCESS in the Groin*.

An ABSCESS in the Back and Loins. Vide *Psoas Seu Lumbaris Abscessus*.

An ABSCESS of the Belly. Vide *INFLAMATIO MUSCUL ABDOMINIS*.

An ABSCESS in the urinary Bladder. An inflammation in the bladder is sometimes followed by an *abscess*. When this happens, it is known by an exacerbation of the symptoms, and a sense of weight in the parts about the perinæum and pubes.

In order to the cure, inject emollient fluids, mixed with warm milk, into the bladder, very frequently, to hasten the suppuration, and to solicit the discharge into its cavity. If the pus is not evacuated in due time, it acquires an acrimony, corrodes the adjacent parts, produces fistulas, and other inconveniences.

If the injections fail, there is no resource but that of an operation, which though rarely required, two examples are recorded in *Bonet. Sepulch. lib. iii.*

An ABSCESS of the Bones. Observations in practice prove, that not only in the cellular parts near the joints, but also in the middle cavities of the large bones, inflammations have degenerated into *abscesses*.

The observation of *Ruysch*, in which he says, that

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he found in the middle cavities of the large bones, round bony pipes, separate from the rest of the bones in which he saw them, may be referred to this article. Vide ABSCESS of the Periosteum.

An ABSCESS in the Brain. Instances of this kind have occurred, and if the trepan is used early enough, the case ends well.

An ABSCESS of the Breast. These are external and internal, for the latter. Vide VOMICA.

Externally this disorder happens, for the most part, to women. It is then called *Na&ta*. Bruises sometimes are the cause, but generally, a too active separation of the milk, or taking cold while the woman continues to suckle. Inflammation of the lungs and pleura often produces *abscesses* in the breast externally, and upon the ribs, which prove fistulous, and render the bones underneath carious. A frequent cause is from not letting the child suck until two or three days after its birth; an early application of the child to the breast, or otherwise employing the breasts before they are turgid with the milk, would in general prevent this complaint. Another cause is the use of astringents, &c. to repel the milk. When *Abscess* arises from milk, it is termed *Sparganosis*.

If these *abscesses* burst at the top, sinuous ulcers are sometimes the consequence; and this happens too from laxity in the habit, and a defective heat in the constitution.

When inflammatory tumours happen in the breasts of pregnant women, or of those who are nurses, be very cautious in the use of repellents; in sanguinary habits, bleeding and opening medicines are necessary, with a cooling regimen. If such tumours do not very easily and speedily give way, proceed to suppuration, for this is the best way of preventing a scirrhus or a cancer.

The common white bread poultice is preferable to any other suppurant in these cases; apply it warm, every

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every two or three hours, and continue it till the *abscess* breaks of itself, and then you have only to enlarge the opening a little, if it be too small ; a small opening is generally preferable to a large one, as it heals both sooner and more kindly : some advice to make an opening during the state of inflammation, because of the pain which attends these tumours ; but by such premature discharges fresh collections will be made, and thus may the whole breast be wasted ; or by repeated inflammations a scirrhus will be formed, which almost invariably terminates in a cancer.

An *abscess* here must be opened by incision, never by a caustic, only if the lancet passes near the nipple, if possible direct it semicircularly, both to avoid cutting it, or the areola, for thus the beauty of the part is best preserved, and future suckling not prevented.

It sometimes happens, that in order to healing a present *abscess*, as also to prevent the formation of new ones, it is absolutely necessary to wean the child, and gradually divert the milk from the breasts. Vide *Bell's Surgery*, vol. v. p. 396. *Kirkland's Med. Surgery*, vol. ii, p. 160—175. *Pearson's Principles of Surgery*, vol. i, p. 73, &c. *White's Surgery*, p. 441.

An ABSCESS of the Diaphragm. Vide *DIAPHRAGMATICIS.*

An ABSCESS in the Ear. The symptoms attending an *abscess* in this part, have nothing peculiar, except that the pain is very exquisite. Vide *OTALGIA*.

An ABSCESS in the Eye. From the small-pox most frequently, though from other causes, this accident sometimes happens.

When the seat is in the transparent part of the cornea, it is discovered by the peculiar whiteness of its appearance.

When it is in the opake part of the cornea, the eye is swelled, but more particularly so where the *abscess* is seated.

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If its seat is deeper, the first evidence of its existence is generally the extravasation of its contents in the aqueous humour.

Those on the transparent cornea, are generally cured by cautiously opening them with the point of a lancet, carefully avoiding the pellicles of this coat which lay beneath.

In the other two kinds there is great danger of losing the sight, for they discharge themselves into the anterior chamber of the eye, though sometimes a cure is effected without any remaining inconvenience. When the matter of these diffuses itself so as to spread over all the pupil of the eye, then is formed the hypopyon; if only a part of the pupil is covered thereby, the matter forming itself into a speck like those at the bottom of our nails, it is called an onyx. Heister, in his Surgery, gives a different account of the hypopyon and the onyx.

In the cure of the chemosis, first use remedies to resolve the inflammation; if these fail, proceed as follows: While the contents of the *abscess* are not yet dispersed, but extend into the hole of the pupil, place the patient fronting a good light, with his head laid on the back of an easy chair, then make an incision into the transparent part of the cornea, under the hole of the pupil, taking care that the point of the lancet does not touch the iris, which lays behind the pus; make the aperture long enough to give a free vent, then gently inject a little warm water. Afterwards apply a compress, wetted in a weak solution of ceruss acetat; keep the compress constantly moist by sprinkling it from time to time, and drop some of it three or four times in the day in the orifice of the cornea. Some days after the first discharge, a fresh collection of pus sometimes presents itself, in which case introduce a fine stilet into the incision, in order to its passage outward, and proceed as at the first.

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first. On these subjects vide *Wallis's Nosologia Methodica Oculorum*, and *Bell's Surgery*, vol. iii.

An ABSCESS in the Eye-lid, when externally situated, it requires no peculiar management different from *abscesses* in general, except that in opening it when situated near the cilia, great care is required not to enter the lancet any deeper than is barely necessary to evacuate the *abscess*; if the edge of the eye-lid is cut, an incurable wateriness is endangered. The direction of the incision is the safest in the course of the orbicular muscle.

An abscess situated on the inside of the eye-lids may be opened with a lancet, and then washed with a weak solution of cerus. acetat.

ABSCESSSES in the Feet. Of all the sorts that affect these parts, the strumous are the worst, for in these instances the bones are usually affected; but *abscesses* of every kind are bad, as they are apt to form sinuous ulcers, and cariate the bones. The applications and general managements as are in other cases.

An ABSCESS of the Gums. Dr. Cullen places this as a variety of the phlogofis phlegmone. These tumours are very painful, the inflammation is often more diffused than in other parts, and more or less attended with a swelling in the cheek, or perhaps the whole face.

The tooth-ach, the general causes of inflammation, a carious tooth, &c. are the causes of this complaint. Mr. John Hunter observes, that gum boils seldom arise from any other cause than inflammation in the cavity of a tooth, the effect of which extends all over the face, but more particularly in the gums; that sometimes this disease originates from a disease in the socket of the tooth, or in the jaw, without any connection with the tooth.

Through bad management, or neglect, they are apt to degenerate into fistulous ulcers.

During the inflammation, to assuage the pain, let the patient hold a decoction of barley (or of camomile

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or elder flowers, or other anodyne ingredients) constantly in his mouth, spitting it out, and taking fresh quantities, as may be needful to keep up an equal degree of heat, or, perhaps, the suppuration cannot be avoided; in which case let figs be split and held in the mouth upon the boil, and white bread poultices (wrapped in thin linen cloths) applied hot on the out-side upon the cheek of the affected side; and as speedily as is convenient, let the *abscess* be opened, for the contained matter soon corrodes the adjacent parts, and affects the bone. The discharge being made, the poultice may be continued a little longer, and the mouth washed three or four times a day with warm wine and honey of roses.

If a bad tooth is the cause, it must be extracted before any attempts are made by medicines, or, at least, as soon as the discharge of the *abscess* will permit.

If the ulcer degenerates into a fistula, inject warm wine and honey of roses into it; and if it is suspected that the bone is carious, add to this injection a little of the tinct. myrrh. or of the vin. aloes. If these methods fail, proceed as for the exfoliation of a carious bone. Vide article *EPULIS*. On this subject, see Mr. John Hunter's *Natural History of the Human Teeth*, part ii. and *Bell's Surgery*, vol. iv. p. 203.

An ABSCESS of the Heel. The common causes of an *abscess* may produce it, but generally it is strumous.

The principal object of particular attention is, that if there is a caries, the best method is to pass an actual cautery through a canula. Wiseman says it saves much time, and that thus the caries seldom separates in the form of a scale, but moulders away insensibly with the matter.

ABSCESES on the Fingers and Toes. Vide *PARONYCHIA*.

An ABSCESS in the Groin. These, like those in the arm-pit, are sometimes occasioned by injuries done to the parts below, as in the knees, legs, or toes; a pestilential fever may be the cause, but the venereal disease

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is the most frequent. Vide article *BURS*. If opened with a knife, be careful not to wound the inguinal artery. In venereal cases a caustic is the best for opening them with, as it dissolves part of the induration which too often remains after the greatest part is suppurated, and also assists in digesting the remainder. If *abscesses* in the groin, or in the arm-pit, are from the crisis of a fever, open them with a caustic, and keep them running till all danger from the fever is over. In glandular parts all that is hardened should be perfectly dissolved; for instances have occurred of cancers proceeding from remaining indurations.

ABSCESSES on the Hands. For the most part they are strumous; when not, the common methods suffice for their removal.

An ABSCESS on the Head. Wounds on the head generally are the most speedily healed; when an *abscess* is brought to the state of a wound, the same advantages attend it, and the common methods suffice for the cure.

When *abscesses* are seated on the sutures, they may be troublesome by inflaming the dura mater which passes through them, and is continued to the pericranium. Every where on the scalp, a caustic is the best for opening *abscesses*, especially if a long confinement of the matter has rendered the skull carious, for it makes some way for the raspatory, which is always used, except where the sutures are: exfoliation here is very slow, therefore rasping is used, and then incarnation can immediately proceed.

Abscesses over the forehead are best opened by incision, but care should be observed, that the direction of the fibres may be followed, for a transverse wound may cause the eye-lids to fall over the eyes.

An ABSCESS in the Hip, a species of *Arthropusis*. When an *abscess* forms itself in the socket, or the head of the thigh-bone, there is usually a great swelling and lameness in the hip, and in time a collection of matter is made here also: however, this is not the only way it proceeds, for instances have occurred, in which it has

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passed through the bottom of the acetabulum into the belly; and in these cases when the patient went to stool, the matter by straining was forced back, and through the external wound. Mr. Pott observes, that this disease originates in the hip-joint; yet, in this case, the leg of the affected side is shorter than the other, the pain begins where the disease originates, i.e. about the great trochanter. It is, he says, a distemper of the joints and ligaments that surround it. He farther adds, that, if we see scrophulous affections of any kind, in the beginning, if there is any remedy in art, I believe it to be issues; therefore in scrophulous hips, apply a large caustic on the part large enough to admit of five or six peas, and keep up the discharge as long as it appears to be necessary. But, though this method, if early used, is much to be depended on, like many other valuable means, is usually applied too late.

ABSCESSES about the Jaws. Besides the common causes, a carious tooth, the tooth-ach, an injury done to the socket of the jaw in extracting a tooth, &c. may produce an *abscess* in these parts.

Abscesses under the chin are frequently found in children, but they easily give way to the common methods.

The conglobate glands under the jaws are very subject to suppuration, and are often mistaken for strumous swellings, but they differ greatly from them. The strumous kind are contained in a cyst, which requires to be destroyed by escharotics after the matter is discharged; but these are managed and cured with ease by the ordinary methods of digestion.

An ABSCESS in the Intestines. When an *abscess* in the intestines is discharged, the case is sometimes mistaken for a dysentery; indeed, if the exulceration continues long, its treatment will be the same as in the dysentery, though at the first the methods are far from similar.

Before an *abscess* is formed in these parts, there is always a throbbing pain felt near the part affected. At the

he beginning of the suppuration there are unequal shiverings, which increase and remit; also a fever, with an exacerbation of the symptoms in the evening. When this accident follows an inflammation of the bowels, it begins in about four days after the attack of the inflammation, at which time a shivering comes on, which extends through the whole body, and an obscure pain, with a sense of weight, is perceived by the part affected. After the pus is quite formed, the symptoms abate, and the pain nearly ceases, till the time of breaking approaches, and then the pain is renewed, and sometimes the belly is violently constipated; after the discharge, a quantity of aqueous pus is thrown out by stool. See Aetius Tetrabib. iii. ferm. i. cap. 42. In about fourteen days the pus makes its way into the cavity of the belly, and produces inconveniences similar to those arising from a discharge of the like kind from the liver: or, passing into the intestines, it runs off by stool. In this case, entire membranes are discharged, and a consumption often follows.

If, on the first attack the means employed against an inflammation of the intestines fail, little more is to be done than to supply the patient with emollient and gently detergent broths, until by the continuance of the excretions the dysenteric state is arrived, when the procedure is as in a dysentery.

Musgrave, in treating of the irregular gout, observes, that sometimes a gouty dysentery degenerates into an *abscess* in the bowels. Celsus observes, that large *abscesses* in these parts are not seldom the consequence of fevers and pains, especially of pains in the belly. Gouty *abscesses* are formed in the oesophagus, stomach, and guts, and that without giving any reason to suspect them, till they break. However, as soon as the discharge is made, the patient should avoid all exercise. To dilute and to deterge, let the following be used for common drink: Rx Hord. perlat. 3 ss. rad. consolid. min. 3 i. coq. in aq. purissim.

lb iij. ad lb j. & cola. If the purulent discharges are excessive, moderate them with small doses of the tinct. opii. in case of faintness, a glass or two of wine may now and then be allowed; avoid all acids, acrids, and high cordials, and let the diet chiefly consist of jellies, agglutinating broths, &c. at last, when all appearances of purulency have vanished, the following may be used both to restore, and to prevent a relapse. Rx Gum myrrh. pulv. gr. v. bals. locat. q. s. f. pil. iij. bis die repetend. cum hauft. decoct. supra prescript. Vide Warner on the Gout.

An ABSCESS in the Kidney. When an inflammation in the kidney suppurates, it is known by the following signs, viz. a remission of the pain, which is succeeded by a pulsation, a frequently returning horror, a weight and stupor in the part, with a heat and tension, the urine is purulent and fetid sometimes, and, at others, a whitish pus is discharged with it, in which is nothing offensive.

If this suppuration continues some time, the whole kidney being consumed, it forms a kind of bag of no use; and, in this case, a *tabes renalis* is frequently present; but if a small quantity of the inflammatory matter remains coagulated in the minute folliculæ of the urine, it forms a basis, to which the fabulous matter which continually is passing by it will adhere, and gradually form a stone, and which also by the same means will be augmented.

When the *abscess* is burst, the urine becomes purulent; and though in these cases the discharge ceases, the kidney shrinks into a withered state, and all complaints are ended at some certain period; yet to hasten this relief, diluting and gently diuretic liquors may be used, gentle laxatives and balsamics also, and probably the bark may much conduce to the expediting a cure.

An ABSCESS of the Liver. A suppuration is prognosticated if an inflammation continues in the liver
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more than three days; if the pain remits, and is followed by a pulsation in the same place, and if shiverings come on, with a continuance of an icterical colour: soon after which a tumour is perceived in the region of the liver, and a sense of weight also; a hectic fever follows with thirst, and an extreme feebleness. Aretæus observes, that a pain generally extends to the throat, and to the extremity of the shoulder, and a dry, but not very frequent cough, afflicts the patient. He farther remarks, that this disorder is sometimes mistaken for a tumor of the peritonæum, which latter is more irregular, and is not circumscribed by the limits of the hypochondrium.

The consequences of an *abscess* in this viscus are: It is corroded and consumed. In this case, after a tedious icterical wasting, a slow fever, great anxiety, a fanious and fetid diarrhoea, &c. the patient dies.

The *abscess* breaks inwardly, and discharges a fanious pus into the belly: thus the rest of the viscera become putrescent, a consumption of the whole body hastily advances, an ascites follows, and terminates in death.

The same sort of pus passes by the billiary ducts into the intestines, and regurgitating into the stomach, causes various coloured and offensive vomitings; or passing downwards, produces a violent diarrhoea. Acid and acescent substances may palliate for a time, but the end is always fatal.

The ichorus matter passing through the ramifications of the vena cava to the blood, procures symptoms the most formidable, the functions are soon disturbed, and the disorder only ends with life.

The tumour may adhere to the peritoneum, and form an external *abscess*, evident both to the sight and touch. In this case, a discharge of the matter must be procured in the following manner: Make an incision of sufficient length with a scalpel, through the external teguments in the most depending part of the tumour, and on reaching the *abscess*, open it with

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the point of the scalpel, or with a lancet, but piercing it with a trocar is preferable, as you may thereby regulate the discharge. This opening may afterwards be enlarged, to prevent farther collections. Between the lips of the wound, a pledgit of soft lint, moistened with fine oil, or spread with a mild ointment, should be introduced, and a flannel roller passed three or four times round the body. If the wound does not soon fill up, a canula should be introduced to preserve a free passage for any matter that may afterwards form. Mr. Bell advises an opening to be made into the abscess, *in every instance where there is the least cause to suspect that matter has formed in the liver.* The free use of the bark, when the suppuration is formed, and the matter discharged from the abscess is useful. When the abscess bursts into the cavity of the chest, or in the abdomen, an attempt should be made to draw it off by the operation of the empyema, or paracentesis. Vide articles PARACENTESIS, and EMPYEMA.

In an incipient inflammation of the liver, the usual means for reducing inflammation should be employed. Mercury also, has been found extremely beneficial. Vide *Bell's Surgery*, vol. v. p. 387. *Kirkland's Med. Surgery*, vol. ii. p. 135. and *London Medical Journal*, v. vii.

An ABSCESS of the Mediastinum. In such situations there is but little to be done for the relief of the patient; however, it is observed by several practitioners, that in the venereal disease this disorder is peculiar and frequent. Vide *Kirkland's Med. Surgery*, vol. ii. p. 183.

An ABSCESS of the Mesentery. Suppurations in this part are not suspected by many, because neither heat nor pain are always perceived in it; but these symptoms, though commonly attendant on, yet are not essential to inflammation and suppuration, on the sensibility of the parts these depend. It may be observed, that

that pus is no where more readily formed than in parts that are every where covered with fat, because the fat itself, in some degree, is conducive to it.

Abscesses in the mesentery are far from being rare, and are generally to be discovered by a continual hectic fever, an oppressive uneasiness in the belly, a discharge of a fainous matter by stool, and sometimes pain and heat in the intestines. The fainous matter is also not unfrequently absorbed by the veins, and being mixed with the blood, is conveyed to other emunctories, as the glands of the trachea, the kidneys, &c. Hence large imposthumes of the mesentery are often accompanied with discharges of purulent urine, or a spitting of purulent matter, though at the same time no injury has happened either to the lungs or to the kidneys. If the *abscess* is seated in a place less fit for the excretion of its contents, very troublesome gripes, resembling a cholic, are produced: if the matter is discharged into a cavity of the belly, it produces a gangrene in the parts it touches. Horstius, Bartholine, and Tulpius, give instances of the pus being emptied into the cavity of the intestines, and so discharged by stool; but notwithstanding all these circumstances, for the most part the diagnostics are very obscure; nay, these *abscesses* have been unsuspected, and dissection after death has alone discovered them.

If these sort of tumours are suspected, they must be distinguished both from an inflammation and a scirrhus.

In general, the prognostic is dangerous; for if the *abscess* breaks and discharges a very putrid matter into the belly, sudden death follows; if after the rupture the ulcer is not speedily cured, it acquires a bad quality, and induces a gangrene, a dropsy, or a consumption.

If this complaint is manifest, and the tumour can be perceived, emollients may be applied externally, and

and internally may be administered aperient and gentle purgative medicines, and such things as are used in obstructions of the liver and spleen, &c.

These suppurations are generally in the glands of the mesentery, and are only one amongst other scrophulous attendant symptoms. These glands are often found after death in a scirrhouſe ſtate, and thus are frequently the companions of a cancer here, or in ſome other glandular part. Vide *Riverius's Prax. Med. lib. xiii.*

An ABSCESS of the Neck. This part is affected with tumors of every kind, but generally the scrophulous and encysted occupy it. *Abscesses* here are apt to become fistulous, but by proper compress and bandage this effect is often prevented. An opening in this part is best made with a lancet; but if the jugular vein is near, ſome care is required not to wound it.

An ABSCESS in the Noſtril, Ozæna. These from the pain they occasion are exceeding troubleſome. If in the inflammatory ſtate they can be removed by bleeding, purging, blifteing the back, &c. much trouble to the patient will be ſaved; but if the ſuppuration ſtill advances, emollient injeſtions may be thrown up the affected noſtril, and a warm cataplasm laid upon the noſe. *Wifeman* obſerves, that the matter when digeſted is very tough. Vide *Bell's Surgery*, vol. iv. p. 76. *Pearſon's Principles of Surgery*, vol. i. p. 255, and *White's Surgery*, p. 265.

An ABSCESS in the Nymphae. *Aetius* calls them *Alæ*, and ſays in case an *abscess* here, or in the *pudenda*, ſhould extend to the *anus*, we muſt avoid cutting, for a *fistula* will be the confeſſion; but if it extends to the *meatus urinarius*, an inciſion may be made.

An ABSCESS of the Pancreas. This complaint is the moſt common in ſcorbutic habits. *Riolan* ſays, that its preſence is probably queſted at by a ſenſe of weight in the region of the ſtomach, no hardneſſ nor tumour

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tumour being manifest in the hypochondria, particularly if there are other marks of latent obstructions in the abdominal viscera; also a difficulty of breathing from the compression of the diaphragm; and sometimes by pressing near the side of the stomach a tumour is perceptible, and then the pressure causes pain. *Though for the most part the diagnostics are very obscure or uncertain, yet it may be observed that a hectic fever, long watchings, short sleeps, followed by a sense of weariness, fainting, and cold sweats, are certain attendants when this disease is present.*

The cure is the same as in similar disorders of the other viscera. See Riverius's *Prax. Med. lib. xiii. cap. 4.*

An ABSCESS of the Parotid Glands, also called *parotis*.

The parotid glands suppurate with difficulty, the less so when the general habit is disordered, a venereal, scorbutic, pestilential, or other affection attends.

They are apt to become fistulous; though when they arise in children, unattended by any other disease, there is no danger of ill consequences, and in such circumstances the best remedies are purgatives, mixed with small doses of calomel frequently repeated.

In more advanced life, Trallian lays it down as a rule, that if called early to assist in such a case, the cure must begin with bleeding: and Celsus, with great judgment proposes, that "When the parotis is unattended with any other disorder, the cure may begin with repellents and discutients; but, on the contrary, if any other complaint has preceded or attends, suppuration must be immediately promoted."

The management under suppuration is the same as in other similar cases, viz. the *BUBO*, which see, &c. *Kirkland's Med. Surgery*, vol. ii. p. 142.

An ABSCESS in the Perinæum. An *abscess*, if suspected to be formed in this part, should, if convenient,

nient, be prevented, because of its troublesome effects; it retards, or totally prevents the discharge of urine; besides, by the nearness of the os pubis, those spongy bones may be affected. If a suppuration is actually begun, proceed as with other *abscesses*. See a singular case in *Le Dran's Observations*. Also, *Kirkland's Med. Surgery*, vol. ii. p. 253.

An ABSCESS of the Periosteum. This case is known by evident inflammation and pulsation in the part, the fever, irregular shiverings, and particularly an absence of the signs of resolution. As the suppuration approaches and proceeds, all the symptoms are augmented; but the principal sign is the irregular horripilation. Sometimes the diagnostics are obscure, because the quantity of matter collected, though productive of violent symptoms, is too small to raise a sensible tumour; and in such cases, the pain does not remit, though the pus is formed; beside, the matter gradually increasing in quantity, unless it corrodes the periosteum, it makes itself a passage between it and the subjacent bone, and thus, by gradually separating them, keeps up a pain of the most intolerable kind.

An accident of this kind soon lays the bone bare, and corrupts it by destroying the vessels which nourish it. The pus becoming acrid, also corrodes the periosteum, and spreading through the softer parts, produces fistulous ulcers.

When this disorder is manifest, a speedy discharge is to be aimed at, and the bone must be treated in the same manner as the skull when denuded. First make an incision through the teguments only; for when the periosteum is corroded, the matter generally soon makes a way betwixt the muscles, in which case it is a guide to the operator in piercing to the bone, which when laid bare, the remaining procedure will be as in deep *abscesses*, and when the skull is deprived of its pericranium.

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An ABSCESS of the Pleura. When this is suspected, our utmost care is required to obtain a discharge externally, to which end an opening must be made into it as early as possible, lest it burst into the cavity of the breast and form an empyema. Vide Sharpe's Critical Enquiry, and Le Dran's Observations and Operations.

An ABSCESS of the Spleen. This viscus is rarely so affected, but when it is, and the suppuration is completed, for the most part it is easily perceived by the pressure of a finger; when this tumour is ready to break, the nausea and anxiety are very great. Sometimes, indeed, an *abscess* is formed in this part, and escapes all observation, on account of its exciting no uneasy symptoms. Lommius says, in his Medical Observations, that an *abscess* in the spleen is attended with nearly the same signs as attend the same complaint in the liver: and Aretæus observes, that a dropical kind of swelling attends the patient, his skin is of a blackish and greenish colour, he is restless, breathes with difficulty, his belly is tumid with vapours, and there is a sort of a cough, by which but little is discharged.

When this kind of *abscess* bursts, there is no pure digested pus but an ash-coloured, or a brown or livid matter; and if it is deep, a blackish sort of humour, with some of the juice of the tabid spleen is evacuated.

If the fæces are watery, and become more so, the disorder ends well; but if the ulcer continues long, a loss of appetite comes on with a general bad habit of body, livid coloured and foul ulcers break out, particularly on the legs, and in short a stop to affliction is only by death's approach.

Endeavours to prevent suppuration should not be neglected as soon as the complaint is perceived; if those fail, cataplasms of the briony root are preferred as the most effectual digestive. See Oribas. de

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Morb. Curat. lib. iii. cap. 43. Paulus *Ægineta*, lib. iv. cap. 18.

An ABSCESS of the Temporal Muscle. The violent pain occasioned by an inflammation and suppuration in this part, is from the tendinous sheath which covers it, by which the matter is so confined, that it can only escape downwards under the zygomatic process, and so points into the mouth on the outside of the dentes molares, where when it has advanced, it may be assisted by a puncture to discharge itself.

Dr. *Hunter* observes, that when the pain has been violent, and the fever excited thereby considerable, he has, with advantage, made an incision along the muscles; and he advises, when an inflammation is considerable, that we open the part without delay, for we never can perceive any fluctuation there, as the fascia is so tight. *Vide Kirkland's Med. Surgery*, vol. ii. p. 133.

An ABSCESS of the Testicles. *Vide HERNIA HUMORALIS.*

An ABSCESS of the Tonsils. *Abscesses* here endanger suffocation. In the beginning endeavour to obtain a cure by bleeding, purging, or blistering between the shoulders, and such other means as the case may require, or discretion admit; but if, as sometimes happens, all means failing, a suppuration should take place, an incision or two may be made with a lancet into the body of the tumour. Thus by discharging some of the blood and humours before they are formed into pus, the dangerous degree of swelling is prevented. It is never prudent to leave the matter till it is formed into perfect pus, but at the latest, the puncture should be made as soon as the appearance of digested matter can be perceived. It happens sometimes, that when the patient is on the point of suffocation, a sudden spontaneous discharge gives instant relief; as soon as the tonsils have emptied themselves, they contract, and by the assistance of

of a gargle, made with the decoct. cort. ulmi. & melrosae. a cure is completed in a few days.

An ABSCESS in the Womb. When an inflammation here begins to suppurate, bladders of warm water should be applied over the part most aggrieved; frequent incisions are also to be advised.

Oribasius observes, that these *abscesses* sometimes discharge themselves into the cavity of the uterus, at others into the intestinum rectum, or into the bladder. Forestus says, that if the discharge is into the cavity of the womb, and is whitish, the patient may recover; but the ulcer continuing, too often is productive of discouraging effects.

When enquiry is made concerning an *abscess* of any particular part, refer also to what is said on an inflammation and ulcer of the same.

Authors to be consulted on *abscesses* are Hippocrates, Aretæus, Celsus, Paulus, Ægineta, Oribasius, Aetius, Actuarius Hildanus, &c. and among those of later date, Boerhaave, Wiseman, Turner, Heister, Sharp, Dease, & Bell.

ACHYLS. *A dimness of sight*; from *ἀχλυς*, *darkness*, or *cloudiness*. It also signifies a small scar or mark over the pupil of a light blue colour. It is synonymous with *Caligo corneæ*, or blindness from opacity of the cornea. *Vide Cullen's Nosology.* It is the *Leucoma nephelium* of *SAUVAGES*, and is described a speck of the cornea, somewhat pellucid, which occasions objects to appear as if seen through smoke, or a cloud, and hence are more obscured. By inspection obliquely, it is discovered to be different from the opacity of the aqueous humour, accompanying some diseases of the eye. This species often arises from a variolous ophthalmia, or moist one, or whatever can render the cornea opaque; in infants, as their years increases, it often vanishes spontaneously. The juice of either the blues, or purple pimpernel, should be dropped into the eye twice a day for the space of

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a week ; the juice of the common star-thistle, and blue bottle are useful ; but sugar candy, finely powdered, is generally sufficient. Emetic wine dropped into the eye, may also be used with advantage. The vapour of aniseed, or fennel water, is likewise serviceable. Vide *Wallis's Nosologia Methodica Oculorum.*

ACHOR. *Lactumen: abus, acores, cerion; favus.* The *crusta lactea* of authors, and in England, the **SCALD HEAD.** Trallian says, it is a sore on the outside of the head, full of little perforations, which discharge a humour like ichor, whence its name. He farther says, that the *cerion* resembles an achor ; but that the mouths of the perforations are larger, resembling the cells of a honey-comb, whence the name ; the matter is also nearly of the consistence of thin honey. When these diseases spread, the serum, which ouzes out, dries, and forms a scab.

The *achor* differs from the *favus* and *tinea* only in the degree of virulence. It is called *favus* when the perforations are large, and *tinea* when they are like those which are made by moths in cloth : but generally by *tinea* is understood a dry scab on the hairy scalp of children, with thick scales and an offensive smell ; when this disorder affects the face, it is called *crusta lactea*, or *milk scab*. Mr. Bell, in his Treatise on Ulcers, says, that the *tinea capitis* & *crusta lactea*, may both be reduced to the same species of herpes, viz. the *herpes pustulosus*, they being naturally the same, differing only in situation ; the *tinea* is on the hairy scalp, and the *crusta lactea* on the face. Dr. Cullen places this disease under **ULCUS** ; as a synonyme ; where also he places the **CRUSTA LACTEA**, the class locales, and order dialyses. When it happens to children, if in other respects they are healthy, the best treatment, besides keeping the belly moderately lax, is cleanliness and a moderate diet ; an issue may be made and continued till the disorder is cleared,

cleared, and the strength of the constitution is established; keep the hair short, and wash the head with soap-fuds. Some instances of this sort are very difficult of cure, and attended with violent itching, a pale countenance, &c. but still the same method generally succeeds in all the species and degrees of virulence. Small doses of *calomel* may be given as an alterative rather than as a laxative, and the *vin. ant.* in such doses, at proper intervals, as the stomach will easily retain.

Externally the unguent *e pice* may be used two or three times in a week, or cream mixed with chalk in fine powder.

If the humour is repelled give warm sudorifics until it returns. Scabby eruptions on children should not be repelled when about the mouth, ears, or indeed on any part of the body. Though these eruptions depend not on the habit, but the difficulty of passing through the skin, yet cold bathing should not be used. Cleanliness and a frequent use of the warm bath are of great service. The practice of tearing up the roots of the hair is useless, therefore cruel. Keep the hair short, and wash the part with *aq. pur.* in *qua solut. est gr. x. hydrargyrimuriati.*

Among the ancients, Aetius, *Ægineta*, Trallian, Oribasius, Galen, &c. treat professedly on these disorders; amongst the later authors, Heister and Turner may be consulted, with the still later writers, as Brooks, Smith, Bell, in his *Surgery*, and *Treatise on Ulcers*. *Moss on the Management of Children*, &c. and White's *Surgery*, p. 59.

ÆGYLOPS or *ÆGELOPS*. A disease in the inward corner of the eye: so called from *αἰξ*, *a goat*, and *ὤψ*, *an eye*, or *goat's eye*; because it is said goats are subject to this disease. Paulus *Ægeneta*, calls it *anchylops* before it bursts, and *ægylops* after. Avicenna calls it *garab* and *algarab*. *Anchylops* and *ægylops*, are but different states of the *Fistula Lachrymalis.*

malis. The ægylops is the fistula lachrymalis beginning to discharge pus. Dr. Wallis, however, combats the propriety of this general term, he says, ' Why the distinction of the ancients should be at present neglected with respect to the anchylops and ægylops, and general term adopted, which is in itself highly absurd, will not be easy to account for. Surely, to denominate a complaint fistulous, where no fistula exists, must be ridiculous; and the two different species, as well as the third, are styled fistula lachrymalis by the moderns. Some of the ancient physicians considered the lacrymalsac, in its state of tumefaction, as an anchylops; when ruptured, an ægylops; and certainly the distinction ought to be preserved.' *Vide* his *Nosologica Methodica Oculorum. Article, Epiphora a Rhyade.*

It is either scrophulous, atheromatous, or of the nature of a meliceris.

Sometimes it is a symptom of the lues venerea. Sometimes it is with, and at others without inflammation. If it is attended with erosion, it terminates in a cancer. In opening this abscess, be careful not to cut the edge of the eye-lid, for thus you will cause an incurable wateriness.

When it is strumous, it proceeds from congestion, and the tubercle is round without discolouring the skin. If it is caused by fluxion, pain and redness appear, with inflammation all over the eye. Sometimes it begins with a weeping, and is not suspected until a redness appears in the eye, and then by a gentle pressure on the part, a matter is discharged, a part of which resembles the white of an egg. If this matter makes its way into the nose, it acquires a fœtid smell, and is discharged through the nostril.

As to the cure, if the case is recent, begin with a cautious use of bleeding and purging; or if these are contraindicated, give such alteratives as are most esteemed

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esteemed in scrophulous disorders. The tumour may be resolved by anodyne and discutient applications, but if there is a tendency to a suppuration, hasten it, and the discharge of the pus with all convenient speed, lest the bone underneath should be affected ; the abscess cleansed, heal it with the tinct. of myrrh and aloes mixed with mel. rosae. If the matter has passed also under the cilium, use a powerful desiccative, such as strong lime-water, assisted by a compress.

If the periosteum under the tumour is laid bare, an exfoliation must be hastened by a caustic, and a passage opened into the nose, after which dry lint alone may suffice. Too constricting medicines may produce a rhyas, see RHYAS ; too digestive applications may give rise to an encanthis. Vide article FISTULA LACHRYMALIS, also the following authors, Galen, Aëtius, Celsus, Paulus Aëgeneta, Auctarius, Senner-tus, Wiseman, Heister, Pott, Bell, Kirkland, and Ware.

ALBUGO OCULORUM, *White Speck on the Eyes.* The Greeks generally named it *leucoma* ; the Latins, *nubes maculæ albæ, nebula, and neibecula*. Some old writers have described it under the names of *pterigium, pannus oculi, onyx, paralampsis, argema, and œgides*. Sauvages makes it a species of leucoma, under the name leucoma. Dr. Wallis calls it, the *albuginous, or pearly corneal speck*. The French name it, *tache blanche*. When it shines otherwise, *perle* ; the Latins, *margaritta* ; the Greeks, *παραλαμπτις*. It is a variety of Cullen's, *Caligo cornea*. With us it is variously denominated as a **CICATRIX, FILM, HAW, DRAGON, PEARL, &c.**

Every cicatrix will appear white in the black part of the eye ; for the cornea being thickened, the most eminent part turns white ; astringents thicken these cicatrices. Some writers, when this disorder is superficial, term it *nubecula*, and when deep, **ALBUGO.** Others,

Others, when the speck appears of a shining white, and without pain, call it a *cicatrix*; if of an opake whiteness, an *ALBUGO*; seated superficially *a speck*, and more deeply *a dragon*. When an abscess has been the cause, its contents hardening between the *laminæ*, occasions a degree of projection, and it is then called *a pearl*. The causes are various; as inflammation in the eye, abscess in the cornea, erosion, measles, small-pox, wounds, burns, &c. When deep, the cure is difficult; when the consequence of a wound or ulcer, it is easily cured; when it arises from an imprudent use of vitriolic collyriums, or the natural shape of the eye is altered, we are not to expect its removal. When it succeeds inflammation, it generally disappears without the aid of surgical assistance. In these instances, I conceive it is taken up by the absorbent vessels.

Following the small-pox, measles, or other inflammatory complaints, bleeding, purging, blisters, diuretics, and low diet, must be used. Cold, and astringent collyriums must be avoided. When the specks are small, they often ulcerate, but are soon healed by the *aq. cupri, ammoniati* of the Lond. Pharmacop. If the specks have been of long standing, the cure is difficult. The following methods should however be recurred to: expose the diseased part of the eye to the fumes of *camphorated spirit of wine*, directed through a quill. This method seldom fails to excite some degree of inflammation, by which the cure is effected; and if the inflammation is high, the usual means must be employed for its removal. When the film is very tough, and the eye not inflamed, common glass finely levigated, may be blown through a quill, and repeated every day or two. Dr. Kirkland thinks, that in general, when small opacities upon the cornea are curable; and the cure is undertaken as soon as the removal of inflammation admits, nature assisted by strengthening the eye with cold water, will

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will effect the cure. According to St. Yves, it is cured by beginning with the inflammation which accompanies it. Boerhaave prescribed the repeated use of calomel and cathartics. I have always found, that by exciting the absorbent system the disease has been removed, to this end, I have always used calomel and cathartics; sometimes bleeding from the arm, and frequently from the temple by leeches, and this collyrium R. Aq. Pur Ibj. Hydrargyr. muriat. gr. j. Misce. Vide article *UNGUIS*, also Kirkland's Enquiry, vol. i. p. 492. *Bell's Surgery*, vol. iii. p. 356. *Wallis's Nosology of the Eyes*, p. 134, and *White's Surgery*, p. 228.

ALGEDO. Suppressed Gonorrhœa; when it has stopped suddenly, after it has appeared. The symptoms are, a pain reaching to the anus, or to the testicles without their being swelled, and sometimes to the bladder, in which case there is a continued inclination to discharge the urine, which is passed with difficulty, and in small quantities. The pain is extended to the bladder by the urethra, to the anus by the acceleratory muscles of the penis, and to the testicles by the *vasa deferentia*, and *vesiculæ seminales*. To effect the cure, the running must be brought back, by the aid of calomel purges, and bleeding, if in a phlethoric habit. Musitanus and Cockburn have written on this subject. In these and other disagreeable symptoms, such as ophthalmies, deafness, swelled testicles, &c. from the suppression of a virulent gonorrhœa, where the common methods do not reproduce the discharge; a bougie smeared with the virus of an infected person, has been introduced into the urethra with success. Dr. Swediaur informs us, this method was tried many years ago, in one of the first military hospitals in Europe, with constant success. This has since been confirmed by Dr. Lange, in his treatise on *Ophthalmia*. In four cases of swelled testicles, and a suppression of urine from a retropulsed gonorrhœa, the

the inoculation of the venereal poison, by means of a bougie, previously applied for about half an hour to a person afflicted with a clap, and then introduced into the urethra, has been attended with unexpected success, under Dr. Swediaur's inspection. Vide his Practical Observations on Venereal Complaints, p. 53.

AMAUROSIS, from *αμαυρω*, obscure. A decay, or loss of eye-sight, when no fault is observed in the eye, except that the pupil is somewhat enlarged and motionless. The Latins call this disorder a *Gutta Serena*: *cataracta nigra*, *offusatio*, *cæcitas minor*, *mydriasis*. The *tabes pupillæ* may be considered as a species of this disease. Some call it amblyopacia.

Mr. de St. Yves distinguishes this disease into the perfect and imperfect kinds. The perfect is when there is a total blindness; the imperfect is when there is at least a power of distinguishing light from darkness. There is a periodical sort, which comes on instantaneously, continues for some hours, and sometimes days, and then disappears; but it often returns, as in hysterical and hypochondriacal people, &c. In another species, the pupil is always contracted, whether the unaffected eye is open or shut. In infants attended with this complaint, the pupil is oft of its natural size, but no movement is observed there, however exposed to the light. The *nyctalops* is supposed by some to be a species of this complaint.

The different causes are a palsy in the optic nerve, or the retina, proceeding from a slight apoplexy, &c. a tumour, or a plethora in the adjacent parts; a translation of morbid matter from some other part of the optic nerve, or to the retina; a venereal, or a rheumatic humour, may, by falling on the eye, be the cause. Suppressed periodical evacuations, vapours, hysterick, and other nervous symptoms, external injuries, a preternatural contraction, as well as too great a dilatation of the iris, or whatever intercepts the nervous influence in the eye, may produce this disease. In the middle

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middle of the optic nerve runs that branch of the carotid artery which enters into the eye ; this artery being distended may press the nerve, and render it paralytic ; this seems to be the cause of the periodical species. Depletion enters too into the list of causes, whether it is natural or artificial ; but of all the kinds, that from the genitals knits the eyes the most.

Dr. Cullen, in his *Syn. Nofol. Method.* ranks this genus of disease in the class locales, and order dysæsthesiæ : and enumerates the species from the following causes, viz. compression, debility and its causes, spasm, and the application, or the swallowing of poisons.

On dissection after the death of patients who had been afflicted with this kind of blindness, in some the optic nerve was found too much extenuated, flaccid, and by far too small ; in others it was compressed by extravasated blood, or by a tumour, or by a turgescency of the artery which passes through it.

The phlegmatic, cachectic, aged, those with weak nerves, or that have been subjected to severities or excesses, and persons labouring under irregular or suppressed periodical discharges, are the principal subjects of this disorder.

The signs that indicate the presence of this disorder are generally the blackness of the pupil of the eye, its size being larger or less than usual, and its not contracting nor dilating when exposed to a great degree of light. Its approach is generally attended with pain in the head, and as the pain decreases this disorder increases, though sometimes an absolute blindness comes on without any previous complaint, when it comes on without pain, and one eye only is affected, no defect is perceived until the sound eye is closed, then the pupil of the diseased eye dilates, though exposed to a strong light ; and when the other eye is opened, it contracts to its natural size again. In infants, the pupil is sometimes of a natural size, though

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it hath no movement, and thus they continue during many months, or perhaps a year or more, before they can see. When pregnancy, suppressed periodical discharges, nervous disorders, or vapours are the cause, a head-ach, vertigo, drowsiness, noise in the ears, &c. often usher in this disorder; but as in these cases it is periodical, so it frequently returns, but soon spontaneously passes away.

The prognostics are generally unfavourable: if this blindness succeeds a fever, or attacks the aged or very infirm, a cure is not to be expected; if one eye fails, the other usually soon follows; but if the case is slight, the habit of body robust, if it happens after the measles or the small-pox, or in pubertine virgins, it is sometimes cured.

Observe to distinguish this disorder from the glaucoma or the cataract, and a vertigo.

In order to the cure, an attention to the cause will be the first step to the direction of proper remedies.

According to the plethora attending, let the evacuations be directed; if it is sanguine, make a free use of the lancet; if serous, purges, diuretics, and blisters will be proper, and an emetic may be administered, if indicated by any disorder in the stomach.

In phlegmatic habits, and when a rheumatism is the cause, also when a palsy in the retina is suspected, valerian may be mixed with the bark, and taken as often, and in as large a dose as will agree with the stomach.

Be particularly careful to keep the bowels lax, and to this end small doses of calomel, mixed with aloetic purgatives, are to be preferred.

If blisters are applied to the nape of the neck, place them high; but if a palsy in the retina be the suspected cause, the properest place for a blister will be over the supra orbital hole, through which the nerves pass and spread on the forehead. Electricity has also been used with advantage.

The forehead may be rubbed twice in the day with the liniment ammoniæ of the London Dispensatory, and

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and a flannel rag moistened in the same, may remain there in the interval; but a blister is preferable.

Blisters and issues should be kept open as long as possible.

If periodical evacuations are suppressed, endeavour to promote their return; and, in case of failure, substitute some proper artificial discharge.

In case of any acrid humour being translated from the surface of the body, endeavour to repel it by gentle aperitives, and proper sudorifics.

Externally: let the steams of hot spirit of wine, or of coffee, be passed two or three times a day through a funnel to the eye; this, with a cooling light diet, and repeated purging, has effected a complete cure.

Sternutatories are sometimes of singular service; two or three grains of the resin of guaiacum snuffed up the nose, discharges a large quantity of serum; and to the same purpose any of the volatile alkaline spirits may be used, being first properly diluted.

Heister asserts the success of aromatics, carminatives, and attenuants, particularly of mercurials in small doses. Pitcairn declares the same. Coward says, that volatiles, chalybeats, mercurials, cephalics, and nervous medicines are the proper ones. Riverius informs us, that cupping, with scarification on the back part of the head, has been speedily followed with success.

If these means fail, a salivation has succeeded; but small doses of calomel, or rather the following solution, may be given and continued two, three, or more months. It answers the ends of a salivation, and is both more agreeable and safe.

R. Hydrargyr. muriat. gr. viij. Sp. vini Gallic. $\frac{1}{2}$ j. m. cap. cochl. magn. mane nocteque. in decoct. rad. sarsaparil $\frac{1}{2}$ ss.

Should this medicine occasion pain in the bowels, or purging, some Tinct. Opii may be added. Vide

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Heister's Surgery. *Hoffman's Med. Rat. Syst. St. Yves* on the Diseases of the Eyes. *Mead's Cautions and Precepts.* Lond. Med. Journal, vol. xi. p. 20. *Wallis's Sauvages Nosology of the Eyes*, p. 151, &c.

AMBLYOPIA, from *ἀμπελος*; dull, and *ὤψ*, the eye. *Visu debili's Aetii: Visus Hebetudo*—**BOERHAAVE**. This is a debility of sight, absolute, or relative, with ocular inopacity. The principal symptom is an obscurity of sight, without any apparent opacity of the cornea, or interior part of the eye. Vide **AMAUROSIS**.

Hippocrates, in his xxi Aph. Sect. 3. used this word to express the dimness of sight to which old people are subject.

Paulus and *Aetuarius*, use it to express a **GUTTA SERENA**. *Aetuarius* says, there is a manifest, but not a visible cause of this dulness of sight; for neither the coats nor the humours of the eye are disordered; and that a defect of the nervous influence is the probable cause. Vide his work, *De Meth. Med. lib. ii. cap. i.* The *Amblyopia* is said by some others to be fourfold: 1st, **MYOPIA**, or *short sightedness*. 2dly, **PRESBYTÆ**, or *seeing only at a great distance*. 3dly, **NYCTALOPIA**, or *seeing only in the night*, which *Celsus* names, *Imbecillitus Oculorum*. 4th, **AMAUROSIS**, *dulness of sight*. Dr. Cullen places this word in his *Nosology*, as synonymous with the word **DYSOPIA**, which is his generic term for those disorders in and of the eye, called *Myopia*, &c. The *amblyopia* of some writers, is the *Amaurosis* of Dr. Cullen, for the different species of which, vide **DYSOPIA**, also *Wallis's Sauvages Nosology of the Eyes*, p. 151, &c.

AMBUSTA, *Burns* or *Scalds*; called also, *cauris*, *ambustio*, *ambustura*. Dr. Cullen places this case, as a variety of the *phlogosis erythema*.

Burns and *scalds* differ very little respecting the cure. A *burn* is from solid substances, but considered in the effect on the injured body: a *scald* is a *burn* from any hot fluid, or solid when in a fluid state.

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Their danger is according to the degree, the part injured, the peculiarity of the constitution, and consequent symptoms. And wounds from *burns* are more liable to form a cicatrix than when they are produced by other causes.

Burns may be ranked into four kinds :

1st, When a redness in the part is attended with heat and pain.

2dly, When after the *burn*, eruption of pustules or blisters with pain, arise.

3dly, When the skin and subjacent fat are *burnt* to a crust.

4thly, When the *burning* goes to the bone.

The two first resemble an inflammation, and are to be considered as such, from an external cause ; the third a gangrene, and the fourth a sphacelus.

In general, *burns* and scalds require bleeding and repeated gentle purging, to prevent or to reduce inflammation. If lightning was the cause, the internal use of cordials is required. And, if the pain is great, though a fever attends, anodynes internally will be necessary.

Cure of the First Kind. Medicines that neither heat nor cool in a great degree are to be preferred. Cold water may be used in the slighter cases by means of linen rags dipped into it, and the application repeated as often as they become either dry or warm. In the same manner brandy and rectified spirit of wine may be applied, repeating the dressings until the pain abates, and then, in their stead, the camphorated spirit of wine is to be preferred.

Vinous spirits, if applied before the blisters arise, generally prevent them, and always moderate the inflammation ; but, if the injury is on a membranous or tendinous part, it is best to mix oil with the spirit, otherwise it may occasion a contraction of the part.

To the same purpose as the above, and in want of them, any of the following may be used :—The white

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of eggs beat thin ; vinegar, in a quart of which one handful of common salt is dissolved ; the pickle from olives ; the brine from cabbage ; oil of turpentine ; any cooling oil or liniment.

The Second Kind. Emollients are here required to soften the corrugated skin and contracted vessels, by which the circulation will be set free : if the *burn* is superficial, only raising the cuticle in blisters, the frequent use of olive oil or linseed oil, applied with a feather twice a day, and then a plaster of the white cerate, or the white camphorated ointment will suffice : if the blisters are considerable, snip them immediately, to discharge the humour and prevent erosion, but do not separate the cuticle ; then dress with the cerat. spermaceti vel ung. alb. camph. the inflamed circumference may be rubbed with any cooling oil. If an eschar is likely to arise, or the sore requires digesting, use either of the following dressings.

R. Ung. resinæ, flavæ, and Ung. spermaceti $\frac{1}{2}$ p. æq.—Or Ung. resinæ flavæ. & cerat. lap. calam. $\frac{1}{2}$ p. æq.

If this kind of burn or scald is extensive, bleeding and purging may be necessary. If children, their bowels must be kept constantly lax ; low diet, as in inflammations ; and if there is a disposition to fever, direct the following :

Acidi Muriatici cujus detur gtt. x. vel xv in haust aq. pur. 2da. vel 4ta. quaq. hora.

The Third Kind. If a crust is formed, the cure is effected by emollients and suppurants, as in the case of gun-shot wounds. Vide SCLOPETOPLAGA.

If the accident has happened in the face, avoid whatever can tend to increase the cicatrix ; emollients folded in linen cloths, are the best applications ; an emollient fomentation, in which is about two ounces of the camphorated spirit to a pint, may be used at the renewal of the other dressings, during the first three or four days, or until the crust is separated ; after

after which the procedure will be as in any common wound.

If the crust remains firm above three days, make incisions through it, to discharge the matter underneath. And to prevent a cicatrix, as the skin forms, let it be often exposed to the steam of hot water, and apply a cerate of wax and oil.

The Fourth Kind. Where all is destroyed, even to the bone, Heister says, that the only method is amputation; but the attentive surgeon will sometimes consider this is only a worse degree of the third kind, and proceeding accordingly, the operation may often be avoided, and the limb restored.

A violent head-ach in one person, and pain in the limbs of another person, were removed by the parts affected being accidentally burnt, and that only in the first kind of *burns*. Homberg thinks that burning with moxa, with cauteries, &c. cure by quickening the motion of the humours and thinning them, and by destroying the ends of the vessels by which the humours flow less that way.

The most judicious mode of treating burns, is by considering them as high inflammations, of the phlegmonoid, or erythematous kind; which of the two, the general habit will determine, and the treatment must accord, by evacuants in the first, and bark with other tonics in the second. In either case, if much pain attends, opiates must be administered. For topical application, the following preparations are esteemed: **LINIMENTUM OLEOSUM**, *oily Liniment*. **R_z. olei. olivar. 3jss. aquæ calcis 3ijj.** This is more adapted for burns, where the skin is much scorched, or destroyed. Repeated immersion in, or effusion of, cold water, is of very material relief to scalds. To check the progress of inflammation, this is effective: **CATAPLASMA RADICIS SOLANI TUBEROSI**—potatoe poultice. Pound a proper quantity of potatoes to the consistence of a poultice, and apply it cold.

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OR LOTIO LITHARGYRI ACETATI CAMPHORATI, camphorated lotion of acetated litharge. R. Sps. camphorati 3ij. aq. lithargyri acetati 3j. gradatim commisceantur, deinde modo eodem adjicantur aq. distillatae ℥vj. When the inflammation has a tendency to become erysipelatous, this application is extremely useful: LOTIO SPIRITUOSA—*Spirituous Lotion.* R. Sp. Vini Rectificat. 3iv. Aq. Calcis ℥fs. Vide Bell's Surgery, vol. v. p. 357. Pearson's Elements of Surgery, part i. p. 159. and White's Surgery, p. 24.

AMPUTATIO. *Amputation.* The cutting off a limb. From *amputo*, to *cut off*. *Elome excisio*, and *extirpatio* is used in the same sense; *excisio* is more properly applicable to the operation, where one part is cut out of another, as in encysted tumours.

Hippocrates says, when speaking of a mortification, that what is putrified must be cut off, but does not mention the taking off of limbs. Celsus is the first who describes this operation. Till the sixteenth century, we have no account of any method to prevent the hæmorrhage, which happens in this sort of operation, except Celsus's, of making a ligature about the vessels. Faré tells us, that previous to making the incision, a ligature, with a thin fillet, must be made above where the *amputation* is to be, which, he says, first keeps up the skin and muscles in a raised posture; secondly prevents an hæmorrhage; and, thirdly, lessens the sense of feeling: he is the first who clearly speaks of preventing the hæmorrhage when these operations are performed. In 1674, Mr. Morel, a French surgeon, introduced the tourniquet, as it is now used; but the first mention of this instrument, is in the *Currus Triumphalis è Terebintho*, published in London, by an English surgeon, in 1679. About the end of the sixteenth century, Messrs. Verduin and Sabourin, one a Dutchman, the other of Geneva, left a label of the flesh and skin to wrap over the stump, and called it *l'Operation de l'Amputation à Lambeau*; but they probably learnt it from an Englishman,

man, who published this practice in 1679 ; see *Currus Triumphalis è Terebintho*. Paulus *Ægineta* used the actual cautery, but Ambrose Paré secured the vessels by drawing them a little out with the forceps, then making a ligature round them, as is often mentioned by *Celsus*, though neglected by so many of his successors. In the present eighteenth century, improvements are both many and important, in this branch of surgery, the crooked needle, and most other parts of the apparatus, &c. either being now introduced or improved.

Cases requiring Amputation.

After all that can be laid down on this particular, in many instances, the experience and sagacity of the attending surgeon alone, can properly determine for or against an operation. Mr. Bilguer, an eminent practitioner in the armies of the king of Prussia, during his late wars, reduces them to six, as follows :

1. A mortification, which spreads until it reaches the bone.
2. A limb so hurt, that a mortification is highly probable.
3. A violent contusion of the flesh, which at the same time has shattered the bones.
4. Wounds of the larger blood vessels of the limb, when recourse is had to amputation, as the only method of stopping the hæmorrhage ; or through an apprehension that the limbs should perish for want of nourishment.
5. An incurable caries of the bones.
6. A cancer, or humour in danger of becoming such.

Perhaps Mr. Bilguer may have restrained this operation rather too much : however, his humanity is manifest herein, and his ingenuity is such as renders his instructions deserving of attention.

In cases from mortification, Mr. Sharp has well established

established the propriety of waiting until it ceases, and granulations of new flesh bespeak a better state of the blood. He observes, that gun-shot wounds are best, if the necessary amputation is immediately performed; and that the disorders of the joints, ulcers of long standing, and all scrophulous tumours, generally return on other parts, after amputation.

On this important subject, Mr. Pott observes, that in the instances generally demanding *amputation*, if the rule is adhered to, a limb will now and then be taken off, that possibly might have been restored; but the number of those who would be so lucky, is so small, in proportion, to those, who, under the same apparent circumstances, would end fatally, that it can make no difference in the general treatment. Selections of one case from another, is what constitutes judgment in surgery; and happy is the man, who amidst the following demands for *amputation*, singles out a case, in which he will succeed, and save the threatened part. In general, *amputation* is necessary,

1. In some compound fractures. Vide **FRAC-TURA**, when *amputation* is necessary.

2. A wound in the principal artery of a limb; also in some aneurisms; a large wound with loss of substance from arteries not contained within the cavity of the body, as those of the thigh, leg, or arm; they are often so circumstanced as to render *amputation* the only possible means of saving the patient's life. It is true, every instance of a wounded humeral or crural artery, does not demand this operation; but if the wound is such, as that the collateral branches in their neighbourhood are prevented from carrying on the circulation, a speedy *amputation* will be necessary.

3. When joints are wounded, violently injured, or otherwise diseased. When the heads of bones are diseased, their ligaments lacerated, &c. in most instances

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stances *amputation* is necessary. Vide **VULNUS, SCLOPETOPLAGA, SPINA VENTOSA, &c.**

4. A caries of the whole substance of a bone, or of the bones which compose a limb. Vide **CARIES**.

5. Some Mortifications. Vide **MORTIFICATION**.

6. Many instances of gunshot wounds. Vide **SCLOPETOPLAGA**.

7. Cancers. Vide **CANCER**.

The chief circumstances requiring attention in this operation, are, the choice (when possible) of the part at which the limb should be amputated; the prevention of haemorrhagy during the operation; the division of the skin, muscles, and bones, in such a manner as to admit of the stump being entirely covered with skin; the tying of the arteries, without including the nerve, or any of the contiguous parts; securing the teguments, so as to prevent their retracting after the operation; and a proper subsequent treatment of the case.

The manner in which the ancients performed this operation was, by cutting immediately down to the bone, and then sawing it off; but a large surface being thus exposed, a cure was seldom obtained, and those stumps that did heal, were pyramidal, and frequently broke out again. In amputating the fingers and toes, however, this mode may be adopted with advantage. Mr. Louis, a French surgeon, conceiving that the retraction which took place upon this operation, arose from the loose muscles, and consequently the integuments, withdrawing themselves, proposed a double incision, which is to divide the loose muscles in dividing the skin, with the first incision, and with the second incision those muscles which are attached to the bone. In 1779, Mr. Allanson, of Liverpool, published some observations upon Amputation, with his method of performing the operation, by which a great portion of the integuments and soft parts are preserved. It is done by sloping the knife upwards,

so as to form a pyramidal stump, whose apex is the bone, and the basis the extremity of the stump; he then recommends the parts to be brought together, in order to heal as soon as possible, even by the first intention if it can be effected. This mode is now generally adopted. Mr. Bell, however, differs with Mr. Allanson, in the mode of dividing the muscles, and the after position of the skin. Vide his System of Surgery, vol. vi.

Amputation of the Arm.

Apply the tourniquet so that it may press upon the chief artery of the limb to be taken off. When the arm is the part to be amputated (and not the forearm) it is advised by some, for an assistant to press on the artery as it passes over the first rib. The common tourniquet is to be preferred to the screw, as it is more easily loosened.

Two assistants holding the limb in a straight line, an incision must be made quite round through the skin and fat to the flesh; with a straight knife oiled, then the assistant who holds the upper part of the limb, must draw the skin as far back as he can; after which, as near the edge of the retracted skin as possible, the flesh must be divided, at twice, to the bone: and if there are two bones, divide the flesh between them with the point of the same knife, or the catlin, then, that the bone may be sawed off as near to the flesh as possible, observe as follows: it is necessary to cut the skin, &c. to the muscles first, that you may draw it back and cut the flesh as far under the skin as possible, in order to having the skin to reach over the flesh and the bone of the stump as soon as it is dressed: if the incision was made at first to the bone, then the skin would not contribute to the covering of stump. Again, to assist the intention of bringing the skin over the end of the stump, the retractor is contrived, which must be put on after the incision is made through the muscles, to draw them up with, as forcibly

forcibly as the patient can easily bear: thus the bone can be sawed off more closely to the edge of the flesh, and with less danger of tearing it with the teeth of the saw. When there are two bones, as in the fore-arm, after having cut through the muscles, and divided the interosseous ligament, some recommend, instead of the retractor, to pass a compress between the bones, and therewith to draw back the divided parts until the bones are sawed through.

Where there are two bones, apply the saw in such a manner that both may drop together, to prevent making splinters, and also to avoid the painful jar which the patient feels when this is neglected. While the saw is working, the assistant who holds the lower part of the limb should gently depress it, that the saw may have room to pass; and the operator should make his strokes with it, as long as possible. If any splinters remain, take them off with the bone forceps.

The limb taken off: if the larger arteries are not easily seen, the tourniquet may be slackened, and by the blood springing out, they will be discovered. To draw out the arteries, the tenaculum is commonly used, but I have always preferred the dissecting forceps, as with them the vessel is more easily seized, and the surrounding substance whether cellular or nervous, can be separated afterwards. The needle and ligature should never be used, if it can be avoided, as more or less of the nervous parts must be included. The arteries drawn out, tie the end of them with a flat ligature moderately waxed. From the peculiar hardness of the arteries they are easily discovered by the feel. In the fore-arm, compresses are generally sufficient to check the haemorrhage. The arteries secured, bring the skin over the edge of the bone, as far as possible, then apply a pledgit of soft lint, spread with cerat. spermat. cet. or with a cerate formed of wax and oil only. Over this, place a soft cushion of fine tow, or wool (which is to be preferred for its elasticity) with a compress of old linen, and then with

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with two long slips of sticking plaster, placed across each other, confine the whole by placing the ends of these slips along the sides of the stump; after this finish the dressing, by turning a worsted night-cap over the whole.

In the 2d. vol. of the London Med. Obs. and Inq. Mr. Kirkland proposes the use of sponge for a part of the dressing, as soon as digestion is begun in the stump, after an *amputation*. He observes, that the greatest danger after this operation is from an absorption of the matter from the wound after the inflammation is gone off, particularly if the digestion proceeds not very kindly; and to prevent this inconvenience, as soon as the state of digestion is well advanced, he directs a thin layer of fine lint to be applied to the stump, and, immediately upon that, some thin pieces of fine sponge, which have just then been made wet, but are squeezed as dry as can be by the grasp of one's hand. The thinner matter of the discharge from the wound being absorbed by the sponge, the fever, diarrhoea, and other symptoms which it occasions when taken up into the circulation, are prevented; and where, from the thinness and acrimony of the discharge, sponge pledgets are necessary, he orders antiseptic diuretics to be administered internally; and, if needful, the bark.

The dressing finished, the best position for the patient is the bed.

An assistant should gently and constantly hold his hand on the stump during some hours, not only to guard against an *haemorrhage*, but also by the gentle pressure to make the dressings adhere more firmly.

The tourniquet may be gradually raised to admit the circulation of the part more freely, and if no danger seems to threaten, it may be removed the next day.

From plethoric habits, as soon as the patient is in bed, take away some blood to prevent a fever.

On the third or fourth day, remove the dressings, and

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and proceed as in a common wound. If any part of the lint, &c. adheres, leave it to digest away with future applications.

The *amputation* of the arm, and of the fore-arm, are the same, except that in the fore-arm the brachial artery dividing into branches, sometimes demands the use of the needle, more than when the operation is in the arm. In general, when the arm is amputated above the elbow, the same procedure will be necessary as is directed for the *amputation* of the thigh just above the knee.

The Amputation of the Arm at its Joint with the Scapula.

Mr. Morand, the elder, first took off the arm at the shoulder. Mr. Blomfield performed it with success in London. Dr. Home, in his *Medical Facts and Experiments*, says it is a dangerous operation, though attended with all possible advantages. Here the tourniquet cannot be applied. But Dr. Hunter observes, that, when we consider the situation of the blood-vessels, as they pass over the first rib to the arm, it evidently appears, that by turning the shoulder outwards, and making a proper pressure with compresses and bandage, we may absolutely make ourselves masters of the blood in amputating the humerus, at its articulation with the scapula, which is the most intimidating circumstance in the operation.

The patient's arm being held horizontally, make an incision through to the flesh, from the upper part of the shoulder, across the pectoral muscles, down to the arm-pit; and, to save as much skin as you can, begin it about two inches below the joint, then turning the knife with its edge upwards, divide that muscle, and part of the deltoid, and thus the great artery and vein are exposed, and which should immediately be secured by ligatures, at least two fingers' breadth below the axilla; in order to which, carry the

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arm a little backward; then divide these vessels at a considerable distance below the ligatures, and pursue the circular incision through the joint, cutting first into that part of the bursal ligament which is nearest to the axilla; for if you attempt to make way into the joint on the upper part of the shoulder, the projection of the processus acromion, and processus coracoïdes, will very much embarrass the operation: in the next place discover the true situation of the acromion, which having done, draw back the skin, and in dividing the flesh, introduce the knife two or three fingers breadth under the acromion, for thus much of the deltoid muscle is saved, with which to fill up the wound, and expedite its healing. These parts cut through, raise the arm, that the head of the biceps muscle may be more easily found and divided; divide the ligament on the upper part, then on the sides, after which, the head being lifted out of the socket, cut away all that detains it, taking care not to divide the artery, &c. above the ligatures. The remaining flesh at the arm-pit should be nearly of a triangular figure, the broad part being next to the axilla. Apply the remaining flesh immediately to the socket of the scapula, and lay over them dry lint and pledgets, which may be secured by a plaster of the shape of a Maltese cross. To prevent the force of the artery, lay a bolster in the arm-pit to press upon it; secure the whole with the bandage called the *Spica descendens*. *Vide Bell's Surgery, vol. vi.*

Amputation of the Breast.

In this case, women only are the subjects. In performing this operation, as in every other, always endeavour to save as much skin as possible. For the *cutis vera* is never regenerated. The patient being placed in a high chair, or on a table with her head supported with a pillow, by an assistant behind, her arm held horizontally backward, and a little downward,

ward, to expand the pectoral muscle, make a longitudinal, or circulation incision (if the integuments are diseased) as quickly as possible, and accurately dissect away the diseased part. The compress and bandage are generally sufficient to prevent hæmorrhages, yet sometimes the branches of the mammary arteries which come out between the cartilages of the ribs into the breasts, will create some trouble, especially one larger than the rest from towards the axilla, near the edge of the pectoral muscle, which is commonly more troublesome to secure than the rest. Whether the patient is seated on a chair or on a table, the operator should invariably be seated. If the strength will admit, the patient should be bled soon after the operation. The treatment is as in wounds in general. If in the course of the cure a fever comes on, with pains about the precordia, and a difficulty of breathing, death generally succeeds. Frequent bleeding may prevent these symptoms. *Vide Bell's Surgery*, vol. ii.

Amputation of the Fingers and Toes.

Sometimes a finger or toe, that is nearly cut through with a sharp instrument, if clapped to again, whilst it is warm, will unite, at least it is better to give such cases the trial, than to cut them away at the first. When cut obliquely, their reunion may be more certainly expected, than when transversely.

The fingers and toes are best amputated in their articulations; a straight knife must be used, and the incision of the skin should be made not exactly upon the joint, but a little towards the extremity of the finger or toe, that more of it may be preserved for the easier healing of it afterwards: it will also facilitate the separation of the joint, when the finger is cut from the metacarpal bone, to make two small longitudinal incisions on each side of it first. When the lower joints are separated, the first incisions should

be from a little above to a little below the joint on each side, and so deep as to divide the ligaments; and after this proceed as above. The skin grows over the cartilage very readily. If the cartilage is removed by the knife point, or any accident happening to the part, the skin heals better, unites speedily to the bone, but this is not necessary. If the patient is plethoric, let the blood run from the amputated joint, and no hæmorrhage will happen there after. It is never necessary to take up an artery here.

In case of supernumerary fingers or toes, if troublesome, cut them off: sometimes there is no bone where they are to be cut off, in this case a knife may be used; but if there is any bone, a strong pair of scissars may be used, for in infants these bones are not hard. *Vide Bell's Surgery*, vol. vi. and *White's Surgery*, p. 199.

Amputation of the Hand.

Heister thinks it best to amputate the hand, with a knife only, at the joint of the wrist; but the usual method is to cut through the bones above the wrist, in which case, see **AMPUTATION OF THE ARM.**

Amputation of the Metacarpal and Metatarsal Bones.

If any one of these bones are carious, it may be advisable to cut away only so much as is disordered; a small spring saw is the most proper to divide the bones with here. After these operations, the parts heal soon, and a part of the hand or foot is better than to lose the whole.

In these cases, carry your knife first along the side of the bone that is to be removed, and as close to it as you can, at the same time making the wound as smooth as possible. If one of the middle bones is to be removed, we must of course make two incisions, one on each side; having done this, divide the integuments, &c. from the bone above and below, transversely;

versely; then scrape off the periosteum, and saw through the bone with the saw called the metacarpal saw. Hold the saw very steady, and make long strokes when using it. If two bones are to be removed, we should proceed as above, in general; also remember to divide the integuments, &c. transversely between the two bones, as is done between the tibia and fibula, or between the radius and ulna in *amputations* of those parts. The tourniquet is not required in this operation. *Vide White's Surgery*, p. 300.

Amputation of the Leg.

If the leg is to be amputated, though the injury is ever so near the ankle, as a long stump is thought more inconvenient than a short one, it is preferred to amputate it at about four or five fingers' breadth below the tuberosity of the tibia; if it is cut higher, the apponeurotic expansion of the flexor muscle will be hurt; besides, the stump would be too short for an easy support on the wooden leg; and an artery which runs into the thickness of the tibia to be distributed to the marrow, would be unnecessarily wounded.

As the gastrocnemii muscles draw back the skin more strongly than it is drawn elsewhere, it is proper, in order to keep the skin equal after the operation, to cut so that the wound on the calf of the leg is farther from the middle of the ham, than the wound in the fore part is from the middle of the patella.

The tourniquet must be placed three or four inches above the patella, and so as to press more particularly on the artery in the ham. The operator must stand on the inside of the leg, because the fibula will then be sawed at the same time with the tibia: but if, on the contrary, the saw is laid on the inside of the leg, the tibia will be first divided, and the fibula, being too weak to bear the force of the saw, will be apt to splinter, so not only render the operation tedious, but also the cure more difficult afterwards.

Though the practice of making a short stump has generally obtained, Mr. White, the surgeon of Manchester infirmary, prefers amputating betwixt the calf of the leg and the ankle, in cases that will admit of saving so much of the leg; he gives instances of his practice this way, and assures us, that the motion of the long stump is more easy than that of the short one.

After the separation of the limb, the dressing, and general treatment, will be the same as in *amputation* of the arm. Vide Medical Obs. and Inq. vol. iv. p. 168. *Bell's Surg.* vol. vi. *White's Surg.* p. 204.

Amputation of the Penis.

Make a circular incision through the sound skin at the farthest extremity of the sore; let an assistant draw the skin back, then with one stroke of the scalpel cut through the body of the penis, at the edge of the retracted skin, and separate every part that appears in any degree diseased. If any artery bleeds freely it must be secured with a ligature. In case of a considerable oozing of blood from the sore, sprinkle it with starch, or gum arabic finely powdered, or introduce a small silver canula into the urethra, and moderately compress the remaining parts with a narrow roller.—Heister and others recommend the amputation to be performed, by applying a ligature firmly above the diseased parts, by which they are made to fall off in five or six days. The scalpel is to be preferred. Vide *Bell's Surgery*, vol. i.

Amputation of the Thigh.

In amputating the upper limbs, and the breast, the patient may be placed in a chair, but for the lower limbs, a table of about two feet and half high must be preferred. The patient being placed on the table, the tourniquet must be applied, as near

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as possible to the top of the thigh, and the cushion placed upon the femoral artery should reach the groin. The leg should be supported by one assistant, another should support the other leg, and the arms must be secured. An incision must now be made through the skin, then dissect a sufficient quantity of it from the muscles to cover the stump ; this done, divide the muscles down to the bone, then saw it through in the usual manner. The vessels must be secured by ligatures, and the ends left hanging out at each side the external orifice. It must then be dressed superficially.

After the operation, the roller that is to keep down the skin, should go down the waist, and descend down the thigh to the stump : thus abscesses are prevented, which otherwise would form themselves on the upper part of the thigh. It has been recommended in *amputations* of this limb, to dissect away the cellular substance, as this has been thought to produce all the suppuration and discharge : it has been tried, and with seeming success ; but others omit this part of the operation, and think the cellular membrane is a convenient cushion for the stump to rest on.

Another circumstance deserving attention, is, after the operation, to press the crural artery the whole length of the thigh by a long bolster.

If the operation is made on the upper part of the thigh, the danger is very great ; the discharge from the wound when it digests being so great, that the patient's strength is soon gone, and death is a speedy consequent.

Amputation of the Thigh at the Hip-Joint.

Lay the patient on his sound side on a table, secure him in this position by two or three assistants, while another takes the management of the limb. Then place a pad upon the femoral artery, immediately after it passes from beneath Poupart's ligament, and apply the

the tourniquet as near as possible to the top of the limb. Divide the membrana adiposa, and tendinous fascia, by a circular incision, about three inches beneath the tourniquet. Pull the retracted skin about an inch upwards, and at the edge of it, with one perpendicular stroke of the knife, divide the muscles down to the bone. This will give room to secure the femoral artery and all the muscular branches. Now take a large strong round edged scalpel, and commencing at the upper edge of the circular cut, on the posterior part of the thigh, cut down to the bone, and carry it up of the same depth to a little above the great trochanter into the joint. Make a similar incision on the opposite side of the limb, at a sufficient distance from the femoral artery, and completely down to the bone. Distract the flesh from the bone, and let the flaps formed of them be taken care of by assistants, while any artery that may be cut is secured. To disengage the head of the femur from the acetabulum, turn the bone in different directions, and particularly press it inwards, and divide the ligament with a scalpel or firm probe-pointed bistoury. This done, clear the coagulated blood away, place the muscles as near as possible in their natural situations, and draw the two flaps together, so as to cover the sore neatly; secure them in this situation by three or four sutures; by adhesive plasters; and by proper compresses, retained with a broad flannel roller passed different times round the body, and spirally over the stump. The subsequent treatment is as in other cases of amputation. *Vide Bell's Surg. vol. vi. and White's Surg. p. 201.* *Sharpe's Operations of Surgery, ch. xxxvii. Sharpe's Critical Inquiry, ch. vii. Heister's Surgery. Le Dran's Operations. Bilguer's Dissertation on Amputations. A compleat Treatise on the Gangrene and Sphacelus, with a new method of Amputation, by Mr. O'Halloran. Allanson's Practical Observations on Amputation. Mynor's Practical Thoughts on Amputations,*

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tations, &c. and London Med. Journal, vol. i. p. 231.

ANAPHRODISIA, from *a. neg.* and *appetitus, venery*, called also *agenesia*; *atechnia*. *Impotence with respect to venereal commerce.* Dr. Cullen makes this a genus of disease, in the class *locales*, and order *dyforexiæ*. This inability and sterility arises from various causes, either from an abolition of all passionate desires, appetite, or power of action, necessary for the propagation of our species; from a defect in erection, emission, or want of fertile semen. Sauvages has given us five species, which Dr. Cullen thus divides: The true species are the paralytic and gonorrhœic—the *spurious species*, or where the impediments occur to prevent the act from piles, or some fault in the urethra; *what is called false or fictitious*, that is supposed to arise from magic. Vide *Sauvages's Nosologia Methodica*, vol. i. p. 770. The cure of this disease depends upon the removal of its separate causes; when it arises from paralysis, such medicines as are necessary to subdue that complaint must be employed. Sauvages gives an account of a man being cured, by immersing the penis often in the day in a strong decoction of mustard seed. I once had a case of this kind under my direction, which was considerably relieved by a frequent use of the following liniment:

R. Tinct. Cantharid, 3vij. Gum Camphor, 3ij. m.

If it is occasioned by a simple gonorrhœa, the system must be invigorated by tonics, and particularly cold bathing. If from piles, or faults in the urethra, such means must be used, as the nature and particular circumstances may demand.

ANCHYLOSIS, from *ἀγνύλος*, *crooked*; it is also called *ancyle*, *ancylosis*, *anchyle*, and a stiff joint. It is a species of contracture, in Cullen's *Nosology*. Some distinguish this disorder thus: *ancyle*, is when the bones are immoveable, and the joint in a bent position; but if the limb is straight, it is named *orthocolon*.

colon. Petit divides this case into the true and false ; the true are such wherein the bones are united so as to become as it were one ; the false is when, from the tendons being contracted, or other parts about the joint are diseased, the limb is rendered immovable.

The bones are covered at their ends, where they form joints, with cartilages, to facilitate their motion, and to prevent any farther production of bone ; and if these cartilages should be eroded, there will be an excrescence which will produce this disorder : however, it is sometimes a cure of some other worse misfortune.

The general causes are a caries, abscesses in the joints producing caries, ossification of the ligaments, strumous and ricketty disorders, and contraction of the tendons.

When the bones are united, the cure is impossible ; and whatever else is the cause, the cure is very uncertain, on account of the difficulty of coming at the seat of the disease ; and, indeed, often from the difficulty of knowing what part about the joint is the part primarily and principally affected, or even in any degree the cause.

The most simple case of this kind, is that from a long confinement of the limb to one position ; an inflammatory affection of the ligaments, from external injuries, is generally very difficult to remove ; rheumatic and arthritic matter falling on the joint is hardly to be removed ; but the worst is what is commonly called a white swelling, which is most probably owing to a scrophulous virus.

On dissection, after the appearance called a white swelling, there is always found a great thickening of the ligaments, which so confounds the several parts, that they can scarce be distinguished, together with crude matter forming sinuses through this undistinguished mass ; and generally an erosion of the cartilages at the end of the bones.

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If the cause is a rigidity of the tendons, emollient topics are the proper means of relief. Dr. Lobb, from observing the glovers soften hard leather, with a mixture of the yolk of egg and water, proposed it in some instances of this kind with the best success; his prescription is as follows:

Take the yolk of a new-laid egg, beat it with a spoon to a water; then, by a spoonful at a time, add six table spoonfuls of pure water, shaking the mixture well, that the water and egg may be well mixed; this done, apply it, by gently rubbing it on the contracted part, three or four times a day; rub it for a few minutes each time, and let a fresh mixture be made every day.

Others commend mucilaginous oils, of which the *ol. e pedib. bovin.* is the best.

If an inflammatory state of the ligaments is the cause, remedies that are known to resolve inflammation in deep seated parts are the most proper; these are medicaments of the astringent and stimulant kind, and not emollients. Blisters, the most powerful remedies of this sort, have, in many instances, succeeded in this case, whilst it was in a recent state.

In more inveterate cases, a few cures have been effected by the pump. Warm water pumped upon the diseased part, and falling from a considerable height upon it, has by repetition been successful. The warm bath has also had the like happy effects by continuing an hour or more at a time in it, and repeating the same for several days successively. After the bath or the pumping, emollients must be applied.

In scrophulous cases, all means hitherto used have failed; however, as palliatives, when the tumour bursts into ulcers, the saturnine water of Goulard, and such like preparations, are of considerable service. Vide *Petit on Diseases of the Bones. Heister's Surgery.*
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Mem. de l'Acad. Royale des Sciences, ann. 1721 and 1728. Aikin's Obs. on the Preparations of Lead. Bell's Surgery, vol. vi. and White's Surgery.

ANCYLOBLEPHARON, from *ἀγκυλος*, bent, *βλεφαρον*, an eye-lid, a disease of the eye which closes the eye-lids. Vogel defines it to be the gluing together of the upper and under eye-lid. Sometimes the eye-lids grow together, and also to the tunica albuginea of the eye, from carelessness when there is an ulcer in these parts. Both these cases are called *ancyloblepharon* by the Greeks. Sauvages says "That it is an adhesion of the superior with the inferior eye-lid, whence the eye-lids wink and the rays of light are either totally or partially intercepted. This disorder derives its origin from glutinous discharges, such as attend most ophthalmies, chiefly in ulcerated eye-lids, and is cured by warm milk and absorbent powders, commonly tutty; or the coalition is a perfect concretion of the palpebræ with each other, or often with the eye." In these cases, there is sometimes a small aperture, which is generally in the great angle of the eye; if there should not be any, a perforation must be made in either angle, then introduce a probe with a groove, and with a fine edged knife let the parts be separated. If the eye-lids adhere to the globe, they must be carefully divided, and in this operation be more sparing of the eye-lid than the sclerotica. If the adhesion is only to the conjunctiva, blindness is not the consequence, if on the cornea, the sight is inevitably lost. The reunion is better prevented by injection, or lint placed between the eye-lid and ball of the eye, after dipping it in some mild liniment, than by a plate of lead, as recommended by Sauvages, be it ever so thin; as so hard a body may produce inflammation.

Mr. Bell says, when the adhesion of the eye-lids is slight, and has not been of long duration, it may be removed, by the end of a blunt probe insinuated be-

hind it, so as to tear it asunder; but when they adhere firmly, or to the eye ball, he advises every adhering fibre to be slowly dissected, and then cover the eye with a piece of soft lint, spread with Goulard's cerate, or any other cooling emollient ointment; and after the first dressing, a small portion of the same to be insinuated daily between the eye-lids. Vide *Wallis's Nosologia Methodica Oculorum*, p. 51. *Bell's Surgery*, vol. iii. and *Cullen's First Lines*, vol. i. p. 271, fourth edition.

ANCYLOGLOSSUM, from ἄγκυλος, *crooked*, and γλωσσα, *the tongue*. A contraction of the ligaments of the tongue: tongue-tied. Vogel defines it to be an adhesion of the tongue to the adjacent parts, so as to hinder sucking, swallowing, and speaking.

Some have this imperfection from their birth, others from some disease. In the first case, the membrane which supports the tongue is too short or too hard; in the latter, an ulcer under the tongue, healing and forming a cicatrix, is sometimes the cause; these speak with some difficulty, and are called by the Greeks μογιλεῖοι.

The ancyloglossi by nature, are late before they speak, but when they begin they soon speak properly: these are call tongue-tied. Mauriceau says, that in this case it is a small membranous production, which extends from the frænulum to the tip of the tongue, that hinders the child from sucking, &c. He forbids the cruel practice among nurses, of tearing this membrane with their nails, for thus ulcers are sometimes formed, which are of difficult cure; and he advises to snip it with scissars in two or three places, being careful not to extend the points of the scissars so far as the frænulum. When the child's tongue is tied, it is observed not to suck very freely, he loses his hold of the nipple very frequently, and whilst sucking he makes a chucking kind of a noise. The instances rarely occur which require any kind of assistance, for

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if the child can thrust the tip of its tongue to the outer edge of its lip, this disease does not exist ; and if the tongue is not greatly restrained, the frænulum will stretch by the child's sucking and crying. Besides, without an absolute necessity for it, an operation should not be admitted of ; for without great circumspection, by cutting the frænulum, the nerves passing there may be also cut, and then a loss of speech is the consequence.

Sometimes the tongue is bound down with a fleshy substance ; when that is the case, it should never be cut through, because a dangerous hæmorrhage would follow, without any attending advantage ; all that is advisable in this circumstance, is to advise the nurse, now and then, to stretch it gently by a light pressure on it with her finger end. When in consequence of delivering a child by the feet, a swelling is observed under the tongue, the nurse should be forbid to use any means, for the complaint will be increased thereby : this tumour will soon subside.

Vide Hildanus in cent. iii. Obs. 28, where he gives an accurate account of the nature, cure, and bad effects that may follow on improper methods being used for the cure of this disorder. He never cuts more of the frænum than appears ligamentous, and then orders it to be gently rubbed two or three times a day with honey of roses. Vide *Bell's Surgery*, vol. iv.

ANEURISMA, from ἀνεύρυω, to dilate much, and that from ἀνω, asunder, and εύρος, broad, called also, *Hæmaocele arteriosum*. *Abscessus Spirituosus*. *Emborysma*.

An aneurism is a tumour, arising from the dilatation or rupture of the coats of an artery. Arteries only are the seat of this disorder, and any artery, in any part of the body, may be thus affected, as any vein may be the seat of a varix.

Dr. Cullen ranks this genus of diseases in the class, locales, and order, tumores.

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Dr. Hunter divides *aneurisms* into four kinds, viz. the true, the false, the mixed, and the varicose.

First, of the true Aneurism.

The true *aneurism* is formed by a dilatation of the artery. It may happen in any part of the body, but most frequently is found in the curvature of the aorta, which is subject to this disorder from the extraordinary impulse of the blood there ; from the curvature, it runs upwards along the carotids, or the subclavians, generally increasing, till by its great distention it is ruptured, and the patient dies.

The degrees of the dilation of the aorta, in cases of this kind, are various ; in some, the curvature of this artery has been so enlarged as nearly to fill the upper part of the breast. And what is peculiar, and deserving our attention, is, that the spot of the vessel, which is the weakest, and where the disease begins, is apt to be stretched more in proportion than other arteries, and to form particular cells, where they meet with firm resistance, more than where their support is soft and yielding.

The sac formed by the distension of the artery is not a distension of a particular coat, but of the whole substance of the vessel ; but the thickness of the coats of these sacs will last only to a certain period, for when the vessels of the coats can no longer conform to the extension, the circulation grows languid, the sac becomes thinner at its apex, and soon after bursts : farther, as the *aneurismal* tumour increases in size, it meets with resistance from the neighbouring parts, and as the coats will be more or less affected, according to the degree of the resistance, in some places they will be simply distended, in others absolutely destroyed, e. g. where the *aneurism* presses against the diaphragm, it will be thinner than where it suffers no pressure ; it is still thinner where it presses against the tendinous part of the diaphragm, and where it presses the

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spine, it is the soonest eroded through. A proof that all pressure must be avoided in all instances of this sort.

The blood that fills these tumours is always fluid, by being constantly renewed ; that is, as fast as one drop enters another passes out, and continues its course in the circulation ; but, notwithstanding this blood is fluid, its passage in the tumour is retarded, and this remissness in its motion, which is more or less considerable, according to the size of the *aneurism*, occasions some of the fibrous parts of the blood to separate from the red part, and adhering to the internal coat of the *aneurism*, it there forms fibrous strata, which may easily be taken for real membranes by those not accustomed to observe them. This fibrous strata cannot be dispersed by any means, either external or internal, and pressure cannot be used, because thereby the coats of the artery are soon destroyed.

Secondly, of the False Aneurism.

It is formed by a rupture or wound in the coats of the artery, and is of two kinds, viz. the diffused and the circumscribed.

The diffused, is that in which the extravasated blood runs through the cellular membrane, in the interstices of firmer parts ; this generally makes a rapid progress, may extend itself to a great distance, and has little or no pulsation, except very near the aperture of the artery ; but these circumstances will somewhat vary, according to the size of the opened artery, and the strength of the circulation. With regard to the lodgment of the fluid, this species of false *aneurism* is analogous to the emphysema, and is the highest species of ecchymosis.

The circumscribed, beats and sinks under pressure, like the true *aneurism*, and indeed cannot be distinguished from that, except by the knowledge of its cause, or by a careful dissection of the part : it appears

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pears soon after the accident which gave rise to it, and is commonly slow and gradual in its progress.

It happens when the orifice in the artery is very small, so that the blood flows but leisurely, and finds the adjacent membrânes so firmly united as to keep it within a certain channel. It consists of one bag with a smooth inside, and communicates by an aperture with the cavity of the artery. This species of *aneurism* is, perhaps, the most common among those that happen in the arm after bleeding, especially when a considerable pressure has been made use of immediately after the accident.

Thirdly, of the Mixed Aneurism.

This is formed partly by a wound or rupture in the artery, and partly by a dilatation of the rest. It cannot easily be distinguished from the circumscribed species of the false *aneurism*, and will often so emulate the true one, as not to be distinguished from it but by a careful dissection.

Fourthly, of the Varicose Aneurism, or the Aneurismal Varix.

This is when there is an anastomosis, or an immediate communication between the artery and the vein of the part where the patient has been let blood, in consequence of the artery being wounded through the vein, so that blood passes immediately from the trunk of the artery into the trunk of the vein, and so back to the heart.

This species differs from the common spurious *aneurism* in one circumstance only, viz. the wound remaining open in the side of the vein as well as in the side of the artery. But this one circumstance will occasion a great difference in the symptoms, the tendency of the complaint, and in the proper method of treating it.

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Dr. Hunter first described this species of *aneurism*, and to him the world is indebted for many improvements respecting the other kinds.

Mr. Bell, in his System of Surgery, divides the *aneurism* into two species, viz. the encysted, and the diffused. The encysted includes all those instances in which the coats of the artery, being only dilated, the blood is confined in its proper coat: of this kind he reckons the varicose *aneurism*. The diffused includes all those in which, from an aperture in the artery, the blood is spread about in the cellular membrane, out of its proper course.

The causes of *aneurisms* are various. In the true *aneurism*, a particular natural weakness in a part of an artery is the immediate cause; and in general the causes of all the species may be one or other of the following: internally, a fullness of the arteries concurring with some violent motion, or other particular cause; an internal tumour pressing on some part of an artery; or where there is no particular turgidness of the vessels, violent action, sudden anger, vomiting, &c. by propelling the blood too forcibly to some particular part; thus, by stretching the artery, a true, or by bursting it, a false *aneurism*, or the mixed one, will be formed: convulsions, and other violent spasmodic symptoms, and perhaps an acrimony in the blood, by favour of some other concurring cause, may itself be ranked in the number of internal causes: externally, strains, blows, and punctures are the most frequent; pressure used on a true *aneurism*, by bursting the coats of the artery, produces a false one; suspending the breath, as in lifting great burthens, wrestling, &c.

It has been said, that a polypus existing internally, sometimes occasions an *aneurism*; but Dr. Hunter observes, that it rarely or never happens that a polypus is formed till the last moments of life, when the heart's power having nearly ceased, the whole blood

blood cannot be propelled from the heart, but stagnates, forming polypuses; which being found after death, have been supposed to have pre-existed, and to have been the cause of what they were only the effect.

As to internal *aneurisms*, there is no certain criterion by which to ascertain their existence, before they approach to the surface of the body; whatever symptoms they produce before they form a tumour externally, as they may be produced by other causes, they are but equivocal signs. The pathognomonic sign of all the species of *aneurisms*, is, a perceptible pulsation in some part of the tumour, more or less manifest, as the artery is seated superficially or deep. The true *aneurism* is generally of an oblong figure, and has a strong pulsation in it; it subsides on depression; if it is an *aneurism* of the aorta, a strong pulsation is perceived against the sternum and ribs on every systole of the heart, and when it extends above the sternum, there is a tumour with pulsation. These tumours are without discolouration in the skin, except on the point of bursting; there is no pain in them; they subside by pressure while the blood is fluid, but when it is coagulated, they disappear but very little; if there is a sac with a narrow basis, the blood re-enters the artery with a hissing noise when the tumour is pressed. Sometimes there is a redness from the expansion of the parts beyond their capacity, or from the putrefaction of the blood; in which case, there is generally a fever, with fainting. The common appearances of an *aneurism* from the wound of a lancet, are a discharge of blood through the orifice of the skin, by jerks, instead of an uniform stream; and upon being stopped from bleeding outwardly, an insinuation of it among all the muscles, as far as it can spread, in the shoulder and arm, constituting the diffused *aneurism*: in this case, the arm becomes livid from the ecchymosis, and the blood coagulating prevents any sensible pulsation.

In the false kinds of *aneurisms*, the cyst is probably formed of a portion of the aponeurosis that runs over the vessel, which, admitting of some extravasated blood underneath, it becomes excessively thickened and expanded ; that this membrane is the cyst, seems to be confirmed by our so readily discovering the puncture in the artery upon opening the tumour : or it may be formed of the cellular membrane, which admits both of thickening and expansion.

The appearances of the varicose *aneurism* will differ from the common false one as follows : the vein that was punctured will become varicous, and will have a pulsatile jarring motion, on account of the stream from the artery ; there will be a hissing noise, which will be found to correspond with the pulse for the same reason ; the blood in the tumour will be almost entirely fluid, because it is kept in constant motion : it is soon formed to its largest size, and there remains, if it is not disturbed by imprudent management ; there are no considerable inconveniences consequent. That this sort of *aneurism* is present, may be further known, by placing a finger over the orifice in the artery : thus the stream of blood propelled into the vein, at every pulsation, is felt ; by applying the ear to the tumified vein, a tremulous motion and noise are perceived ; by pressing the corresponding artery, this motion, noise, &c. cease, and on the removal of this pressure the motions, &c. return ; the artery becomes larger in the arm and smaller in the wrist ; the vein being emptied by pressure, instantly fills again on taking the pressure off ; the pulse at the wrist grows weaker as the artery above enlarges.

The beginning *aneurism* in the aorta should be distinguished from a palpitation of the heart ; from hysterics, in which symptoms of suffocation sometimes attend ; from fever with fainting, both which are sometimes the consequence of a false *aneurism* ; from varices

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varices of the veins and their effects ; from an emphysema ; from an ecchymosis ; from encysted swellings in the neck, in which are often perceived a strong pulsation from the stroke of the adjacent artery ; and from tumours formed from ruptured veins.

The *aneurism* of the aorta may prove fatal many ways : it more and more injures the general health, as it continues to increase in its size ; it may be supported during many years, but there can be no cure attempted, nor other palliatives used than what consists in composure of mind and quietude of the body. All *aneurisms* are incurable that lay too low for the operation ; and, if unadvisedly opened, the patient's life is in immediate danger, for bandages, which are the only palliatives in such cases, are but uncertain dependents. The diffused *aneurism* is not only subject to hæmorrhages, but also to a mortification.

The method of cure is the same in the true, the false, and the mixed *aneurisms* ; the varicous needs but little, if any assistance ; if it is enlarged by exercise, and becomes painful, indulge a little rest, and moderate the future labour ; perhaps bathing the part with a little spirit may afford some small relief, but bandages and all other means must be avoided.

To palliate, when the operation is impracticable, bleed as often as is required to keep the force of the circulation moderate ; let the diet be temperate, and the exercise very gentle ; keep the bowels constantly soluble ; where pressure is used, it must be such as only checks the force of the blood, not resist it ; flannel bandages, or knit stockings, &c. are the most proper for this purpose. But all pressure is best avoided when the aorta is the seat of the *aneurism*, however the tumour may appear externally : it is true, that, if the integuments give way, and the coagulum formed on the inside of the tumour thereby has lost its support, the assistance of a bandage is immediately necessary, as it is the only means to prevent a fatal hæmorrhage ;

hæmorrhage; in this dilemma, if the substitutes to the integuments are judiciously applied, and accompanied with such topical medicines as resist both suppuration and putrefaction, the life of the patient may be preserved for some time.

When the operation can be admitted, it is adviseable first to attempt the cure by compression; because it sometimes proves effectual, is always a good preparatory step to the operation, by its enlarging the collateral anastomosing branches, and thereby disposes the part to have a more free circulation after the division of the artery; but when the tumour is large, the palliative method should not be long continued, because it injures the neighbouring parts, and will occasion more inflammations, sloughings, &c. when the operation is performed.

The pressure, whether before or after the operation, should be confined as much as possible to the affected part, that the passage of the blood through the anastomosing vessels may be free, by which we may prevent the mortification which sometimes ensues, for want of a free circulation.

Some few instances of small *aneurisms* and punctures of the artery from bleeding, have succeeded by the use of bandage, but they almost all require the operation at last, which is performed nearly in the same manner in every part; but larger *aneurisms* cannot receive any advantage from the pressure, therefore where it hath been used long enough as a preparative to the operation, the sooner it is performed the better.

Mr. Bell observes, in his System of Surgery, that in diffused or false *aneurisms*, pressure cannot be applied to the artery alone, without at the same time affecting the refluent veins; and as this circumstance, by producing an increased resistance to the arterial pulsations, must undoubtedly force an additional quantity of blood to the orifice in the artery, that therefore no advantage is to be expected from it; but, on

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the contrary, that on many occasions there is reason to suppose it has been productive of mischief. But though pressure ought never to be attempted in any period of the diffused *aneurism*, yet in some stages of the other species of this disease, it may be often had recourse to with advantage. In their early stages, while the blood can be yet pressed entirely out of the sac into the artery, it often happens, by the use of a bandage of soft and somewhat elastic materials, properly fitted to the part, that much may be done in preventing the swelling from receiving any degree of increase; and on some occasions, by the continued support thus given to the weakened artery, complete cures have been at last obtained. Yet, though pressure to a certain degree has sometimes proved useful, it ought never to be carried to a great length; tight bandages in these cases always counteract the intention. Indeed, the greatest length to which pressure ought to go, should be, to serve as an easy support to the parts affected, and no farther. With compression, other means should at the same time be used, such as low diet, occasional bleeding, a lax state of the bowels, freedom from strong exercise, &c.

Operation for the Aneurism.

A full command of the circulation in the lower part of the limb being obtained, by the application of the turniquet above: place the patient so that the diseased limb being stretched on a table, is of a convenient height for the operator, who should invariably be seated. The limb being secured in such position by an assistant, make an incision with a scalpel through the skin and cellular substance, along the whole course of the tumour, beginning about half an inch above its upper extremity, and terminating about half an inch beyond its lower extremity. This done, wipe away the blood, with a sponge squeezed of warm water, then make an opening big enough to admit a finger

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a finger of the left hand in the softest part of the tumour, with a lancet; now introduce your finger, and with a blunt pointed bistoury, cut upwards and downwards, so as to lay the whole cavity open; clear the blood and tough membranous filaments away with your fingers; this effected, slacken the tourniquet to discover the artery, and the opening into it from whence the blood collected in the tumour has been discharged; the orifice ascertained, raise the artery from the contiguous parts by introducing a small probe into the opening; then pass a double ligature about the eighth of an inch above and below the orifice. Always pass your ligature by the eye of the needle forwards, lest you should wound the artery or nerve. When in searching for, and securing the artery, the joints near where the disease is situated, whether the knee or elbow, should be bent. Having secured the vessel, bring the parts together either by needle and ligature, or small slips of sticking plaster. The only bandage required, is two or three turns of a flannel roller, above and below the centre of the wound, but by no means tight.

After the operation, the patient should be put to bed, the limb placed in a relaxed position upon the pillow, and a dose of laudanum administered. The treatment should be cordials and nourishing diet when the patient is reduced, and low diet, with bleeding, if plethoric. When, after four or five days, there is no return of circulation, and the parts remain cold and insensible, mortification generally ensues, and an amputation is the only resource.

In case of popliteal aneurism, the incision must be made in a semicircular direction. If, besides the dilated artery, there is an adventitious pouch, make an opening into it, by which you will readily discover the artery. The nerve is most commonly pushed to the outside, of this be careful not to include it in your ligature, as death would be the consequence.

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Whenever you perform this operation, always have your amputating instruments ready, in case of need.

Mr. John Hunter was successful in the operation in two cases of popliteal aneurism, one of which was above the triceps muscle, Mr. Blizzard also has succeeded in two instances. *Vide Lond. Med. Obs. and Enq.* vol. iii. p. 106. *Edinb. Med. Comment.* vol. ii. p. 176. and *Warner's Cases of Surgery*.

Mr. Lambert, of Newcastle, proposed some years since, instead of ligature, to secure the artery by the twisted future. In the *Lond. Med. Obs. and Enq.* vol. ii. p. 360, there is a case of *aneurism* in the arm cured by this practice; after a few days, the pin came away with the dressings. For information on *Aneurism*, *vide Aetius Tetrabid 7. ferm. iii. cap. 10. P. Ægineta, lib. vi. cap. 37. Marc. Aur. Severinus de Efficaci Medicinæ. Morgagni de Sedibus & Causis Morborum. Mem. de l'Acad. Roy. an. 1712, 1733. Philos. Transf. Abr. vol. iii. viii. De Haen de Aneurismatae. Rat. Med. Mem. de l'Acad. Roy. de Chirurgie. Prof. Monro's Remarks on the Formation of Aneurisms*, in the *Edinb. Med. Obs.* vol. ii. and iv. *Le Dran's Operations in Surgery. Sharpe's Operations in Surgery. Dr. Hunter's, and others, Observations on Aneurisms*, in the *Lond. Med. Obs. and Enq.* vol. i. ii. iii. and iv. *Bell's Surgery*, vol. i. *White's Surgery*, p. 115.

ANUS, the lowest part of the *intestinum rectum*, commonly called the *fundament*.

The *anus* is subject to many disorders, and they are generally somewhat difficult of cure, from the irritability of the part, which subjects it to receive fresh injury from many accidents; *Aetius* observes that astringents are acrid, and the sensibility of the *anus* cannot bear them; also that astringents that are not acrid, such as metals, should be applied here. On the diseases of this part, see *Aetius, Celsus, P. Ægineta, Turner,*

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ner, Heister, and Wifeman. Also the article REC-TUM.

Excrencences about the Anus.

Various excrescences are found about the verge of the *anus*; many of these are produced merely by relaxation, which are safely removable: these are un-attended with pain, any disagreeable discharge, and are single or distinct, let their number be what they may. In removing them, prefer the ligature, for the sake of avoiding a troublesome hæmorrhage.

When they discharge a bloody fluid matter, and are painful, they are also generally in clusters, or not distinct, and for the most part disposed to, if not already, become cancerous. Mr. Pott observes, that in cancerous cases of this kind, there is rarely a single excrescence, but the gut is for the most part surrounded with them; and if a finger is passed into the intestine, those tumours produce the idea of pushing the finger into a rotten pomegranate. Beyond palliation, no relief can be afforded.

The Anus imperforated.

Sometimes children are born with a membrane across the *anus*, which obstructs the ejection of the excrements. If the situation of the *anus* cannot be discovered, by reason of the thickness of the superfluous substance which closes it up, a cure cannot be expected; for much, if not the whole rectum is closed up or wanting. If the case admits of a cure, the situation of the *anus* will be seen by a prominence, or by a little hollow.

The accident is generally spoken of as if always circumstanced alike. Mr. Pott very judiciously divides it into four classes. 1st, Where there is no mark or vestige of an *anus* perceptible; in this case, the rectum is as it ought to be until it arrives at the bulb of the uretha; from this there is no intestine,

so no *anus* externally. If the rectum reaches too near the part where the *anus* should be, the impulse of the fæces against the skin will discover where a perforation may be made; but if no such impulse is to be felt when the child coughs or cries, relief cannot be afforded. 2d, Where there is a circle or mark in the skin which points out where the *anus* should be: in this instance the difficulty is not considerable. However, it may be proper to observe here, that the perforating instrument should be introduced into the direction of the os sacrum; if it passes forward, the bladder, or the uterus, or both, may be injured; if it is to be introduced far up, to divide a membranous obstruction in the rectum, in cutting it should be moved not upward, but from side to side; thus you avoid cutting the prostate gland, or the vesiculæ seminales, and perhaps the neck of the bladder. 3d, Where there is a well formed *anus*, and perforated, but it has no communication with the intestinal tube, from the rectum being imperforated. In this instance, if the child is not duly attended to, it dies in great agonies. If an infant has had no stools during the first or second day after its birth, a finger should be dipped in oil, and thrust up the rectum, to discover whether or no the obstruction is there. 4th, Where there is neither *anus* nor rectum, but the intestinal canal terminates in the colon; in this case there is no relief to be expected. Another equally unfortunate kind, is that in which there is a sort of rectum, but it is rolled up like a bit of catgut. Here all attempts to assist are vain, for though for the present a discharge was obtained, as the intestine was deficient, evacuations could not be continued.

The means, &c. of relief, in the first three of the above classes, are the same. In either of them the operation should be performed without delay or regard to any objections; for if it is not conformed to, death will inevitably follow. The best instrument is

a large trocar, such as is used for tapping the ascites, and to be used as follows: keep the point of the trocar within the canula until it is fixed against the obstructing part; then push the trocar forward, and if you succeed, the meconium will instantly be discharged; this discharge may be left to itself for three or four hours, or until the belly is well emptied. After a due discharge, pass a finger up the rectum to discover whether or no there is any stricture. If a stricture is met with, introduce a probe-pointed knife on the back of your finger, and divide it on each side. To finish the cure, let a small candle be introduced up the gut every two or three hours, until the *anus*, &c. is quite pervious, and no more aid appears to be required. In two or three weeks the stools will pass properly, and all inconvenience will generally be ended.

Saviard, in his Obs. 3. gives an instance of a child that was saved by a puncture through an imperforation of the thickness of three fingers' breadth. Vide *Heisler's Surgery*, p. 39. *Bell's Surgery*, vol. ii. *Edinb. Med. Comment.* vol. iv. p. 164. *White's Surgery*, p. 379.

APONEUROSIS, from *apo*, from, and *neuro*, a nerve. Any tendinous expansion. These tendinous expansions, or *aponeuroses*, are also called *fasciae*. When matter is formed immediately under any of the *fasciae*, it cannot point where it was first formed, but runs under them to some distance, to gain an outlet: to prevent inconveniences from this cause, as soon as matter can be felt under a *fascia*, give it immediate vent. When this happens under the temporal muscle, it occasions great difficulty. Vide *Abscess of the temporal muscle*.

AQUULA. A disorder of the eye lids. P. *Ægineta*, lib. vi. cap. xiv. says, it is a pinguinous substance under the skin of the eye-lid, and is also called *hydatis*. It is the *bordeolum hydatidosum* of *Sauvages's Hydatidons, Watery Stian*. In children, it is sometimes very troublesome,

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troublesome, and produces great uneasiness. The upper eye-lid appears watery, and cannot be elevated; the eyes are very tender, distilling a rheum, especially in the morning if exposed to light. In order to the cure, an incision is made through the skin of the eye-lid, and the cyst is to be dissected out.

Mr. St. Yves notices a complaint on the edge of the eye-lids, or on the tunica conjunctiva, which resembles the bladders that appear on the skin after a burn; he calls these also *hydatis*. The method of cure which he proposes, is merely to open the tumour with the point of a lancet. But if the circumference of the globe is covered with water, the conjunctiva will be inflamed, and in this case bleeding, purging, and a collyrium of Aq. Calcis will be necessary. Vide *Wallis's Nosophoria Methodica Oculorum*, and *Bell's Surgery*, vol. i.

ARTERIOTOMIA, from *αρτηρία*, an artery, and *τέμνω*, to cut. Is the opening of an artery for the discharge of blood. This operation is never performed, but on the different branches of the temporal artery. When the artery lies superficial, it may be opened with one push of the lancet, as in venesection, but when the artery is covered with cellular substance, it must be laid fairly open, before the orifice is made with the lancet. The artery should be opened in an oblique direction, neither quite across, nor directly longitudinal. If the blood does not flow freely, press the artery immediately above the orifice, between it and the corresponding veins. Compression, by a linen compress and a linen roller, is generally sufficient to stop the evacuation, previously clearing the orifice from blood, and covering it with a bit of sticking plaster. Should this not succeed, you may either cut the artery entirely across at the orifice, secure it with a ligature, or by constant and regular pressure with a bandage, obliterate the cavity of the artery, where the operation was performed. Vide *Bell's Surgery*, vol. i. *White's Surgery*, p. 178.

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BLEPHAROPTOSIS, from *βλεφαρός*, *palpebra*, eye-lid, and *πτώσις*, *casus*, *descent*, called also, *ptosis*. *A dislocation*, or *displacing of either, or both eye-lids*, by elongation, retraction, turning inwards or outwards, with different symptoms in different species; but the true *blepharoptosis*, or *preternatural descent* of the eye-lid, arises from a wound of the frontal muscles of the temple, or the superiour levator of the eye-lid: or from any large tumour dragging down the eye-lid; from inflammatory, or cold fluxions, elongating the palpebra; from mere relaxations of the eye-lids brought on by superfluous serum; or from a palsy of the palpebra, which is sometimes constant, and sometimes periodical.

The varieties of this species are obvious; with respect to the first, it must be remarked, that the check of the same side, the lower jaw, the tongue, eyes, and other parts, are affected. The second and third varieties are cured by removing the primary disease to which they owe their origin; the fourth requires corroborating and spirituous fomentations; the fifth antiparalytic medicines internally and externally; which, if in two varieties do not succeed, recourse must be had to an operation on the prolapsed palpebra, or on the skin of the forehead; which must be treated as in curing the first variety from a wound. Internal remedies, must be purgatives and diuretics. If a paralytic affection, electricity must be employed. When arising from relaxation, alum, with an infusion of oak bark, is recommended externally, which if not successful, the relaxed skin must be cut away, and the edges of the wounds confined together by sutures, and

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and healed in that situation. Vide, *Wallis's Nosophoria Oculorum.*

There are other species of this disease. Vide articles **ECTROPIUM** and **TRICHLIA**.

BOUGIE. In the French language signifies a *wax candle*. The term is applied to a machine, which (as the wax candle formerly was) is introduced into the urethra for removing obstructions. It is likewise known by the term *catheter*, *candela cerea*, *vel medicata*. Dr. Swediaur, in his *Pharmacopœia Syphilitica*, gives the following prescriptions for *bougies*, called *catheteres*, first made of silver, but they are better formed of elastic resin of various sizes. The second he calls **CERELI** of elastic resin, or of musical chords, made from the intestines of sheep. The third **CERELI MEDICATI**.

R. Ceræ flavæ liquefactæ $\frac{1}{2}$ ij. spermatis ceti 3ij. aquæ lythargyris acetati. Ph. Lond. nov. 3ij. ad. $\frac{3}{2}$ j. These being mixed together, and removed from the fire, slips of linen cloth are to be dipped in the composition, of which the bougies are to be formed. The fourth are the **CERELI MEDICATI**, said to be the invention of Le Dran.

R. Herbæ conii maculati, foliorum Nicotianæ tabaci, Summitatum florentium hyperici perforati. radicis irides florentinæ, ana manipulum unum infunde in decocti nucum julandis regiæ $\frac{1}{2}$ ij. adde herbæ anchusæ officinalis $\frac{1}{2}$ ij. axungiæ porcinæ, ovillæ curatæ, ana $\frac{1}{2}$ ij. misce super ignem, dein adde ceræ flavæ $\frac{1}{2}$ ij. Plenck, in great constrictions of the urethra, prefers those made of the musical chord, because they swell, and then distend the passage, and besides, from their flexibility, remain longer in the urethra without occasioning any irritation; but perhaps those made of the elastic resin, which are formed hollow, are most eligible, as they afford a free passage for the urine without removing them.

Different compositions have been used, and generally

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rally mercury was a part in them. Riverius made a plaster as follows: R. Ol. oliv. ℥ iv. ceræ citrin. ℥ ij. minii & cerus. āā ℥ i. ss. tereb. Venet. & ref. alb. āā ℥ iij. m.

Whether the the *bougies* are made up of this, or any other composition, they must be of different sizes, from the bigness of a knitting needle, to that of a goose quill. They are made of linen rags, spread with a proper matter, and then rolled up as follows. Having spread any quantity of linen rag with the composition that is chosen for the purpose, cut it into slips, from six to ten inches long, and from half an inch to an inch broad; then dexterously roll them on a glazed tile into the form of a wax candle. And as the end of the *bougie* that is to be entered first into the urethra, should be somewhat smaller than the rest, it would be as well to cut the slips a little tapering. It should also be observed, that when the *bougies* are rolled up, that side must be outward, on which the plaster is spread.

Mons. Daran, and some others, attributed the action of their *bougies* to the composition they made use of in forming them. Mr. Sharpe apprehended, that as much of their efficacy was owing to the compression they made on the affected part, as to any other principle. And Mr. Aikin justly says, as it is evident that *bougies*, of very different compositions, succeed equally well in curing the same disorders in the urethra, it is plain that they do not act by means of any peculiar qualities in their composition, but by means of some property common to them all. This must be their mechanical form and texture, therefore their mode of action must be simple compression.

The efficacy of mere compression in many cases of constriction is well known, from the use of sponge tents for widening parts that are straightened by cicatrices; and admitting obstructions in the urethra to be from a constriction formed by cicatrized ulcers, or

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a projection of the spongy substance of the urethra into the canal, we may easily conceive that a gentle continued elastic compression will, in time, overcome the disease. We may also readily account for the inferior efficacy of metallic and whalebone *bougies*, from their not having the property of swelling with moisture, and therefore not making so equal a compression.

As to the *bougies* procuring a discharge of matter, there is no doubt but the mechanical stimulus of a foreign body, in such a tender part, though free from disease, must produce it in some degree, and this will be varied according to the chemically irritating quality of the composition, and the irritable state of the urethra; but it seems an absurdity to apply a topic made uniform throughout, to the whole length of a canal, with a view of producing extraordinary effects upon a particular part of it, by means of some powerful quality in the ingredients. As to that part of the *bougie* which was in contact with the diseased part being particularly covered with matter, this circumstance is owing to the greater irritation of the urethra where the disorder is, than in the other parts of it.

Vide *Sharpe's Critical Enquiry*, ch. iv. and *Aikin's Observations on the external Use of Preparations of Lead*, p. 41. *Bell's Surgery*, vol. ii. and *White's Surgery*, p. 371.

BREGMA. The two bones on the upper part of the head; called also *sinciput*, *parietaria*, and *medium testæ*. The trepan may be applied to any part of these bones, except on the lateral parts of the posterior lower edge of it, as the lateral sinus lays under it. Infants often have tumours on these bones, containing a fluid, and to the touch gives the idea of a deficiency of bone, which is not the case. These tumours should always be left to themselves, as their contents will be removed by the absorbent vessels.

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BRONCHOCELE, from *βρονχος*, the wind pipe, and *κηλη*, tumour called also, *Bocium*, *Botium*. Different writers have given it different names. The Swiss call it *goutier*; some have called, *bernia gutturis*, *guttur*, *tumidum*, and *trachelophyma*, *gossum*, *exechbroncos*; *gongrona*, *bernia bronchialis*. Heister thought it should be named *tracheocele*; Mr. Prosser, in his late publication on this disorder, from its frequency on the hilly parts of Derbyshire, calls it (with others) the Derby-neck; and not satisfied respecting the similitude of this tumour, with that observed on the neck of women on the Alps, he calls it (particularly that which he so well describes) the English *bronchocele*; as various causes give rise to this complaint, the more strictly to distinguish that, in which he expects success in his attempt to cure, he calls that species which is not produced by external accidents, &c. such as loud-speaking, crying, blows, &c. the natural, the spontaneous, or the curable *bronchocele*.

The seat of this disease is the thyroid gland, which lies just below the larynx, round the trachea. The tumour appears in the forepart of the neck, between the skin and the wind-pipe. Women are the most frequent subjects of this disease, in whom it usually appears early. Dr. Hunter met with one case of this kind in a young surgeon; but it rarely happens in males, or being less in sight is not often noticed.

Various causes of this disease are assigned by different writers. On the mountainous parts of Genoa and Piedmont, they attribute these tumours to their drinking water cooled with ice. Dr. Leake observes, in his *Medical Instructions*, ed. 6. that such glandular swellings as happen about the neck and face, should be owing to the severity of the cold, moist air, is very probable, especially since they generally appear in winter: he adds, as far as he could observe, these tumours were rare in the warm dry climates of Italy and

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and Portugal. Some writers attribute it to a scrophulous cause. Mr. Prosser inclines to think that it is a dropsey in the gland, and similar to the dropsey in the ovaries. He relates that Dr. Hunter dissected one of these glands that had been considerably enlarged, and it was found to be enlarged by a number of cysts filled with water. Yet most writers agree in that its true cause and nature are alike unknown.

Mr. Prosser very accurately describes this disease as follows: the *bronchocele* is a tumour arising on the fore-part of the neck; it generally first appears some time betwixt the age of eight and twelve years, and continues gradually to encrease for three, four, or five years; and sometimes the last half year of this time, we are told, it grows more than it had for a year or two before. It generally occupies the whole front of the neck, as the whole thyroid gland is here enlarged, but it does not rise near so high as the ears, as in the cases mentioned by Wiseman, and it is rather in a pendulous form, not unlike, as Albucasis says, the flap or dewlap of a turkey-cock's neck when he is angry, the bottom being the bigger part of the tumour, it growing gradually less upwards: but as to its figure, it varies considerably in different cases. It is soft, or rather flabby to the touch, and somewhat moveable; but when it has continued some years after the time of its growing, it gets more firm or confined. By the situation and nature of the complaint, it generally occasions a difficulty of breathing, and very much so upon the patient's taking cold, or attempting to run or walk fast; in some the tumour is so large, and so much affects their breathing, as to occasion a loud wheezing; but we meet with many exceptions to this general rule. Some have the disease in an aggravated degree, and suffer but little by it; in others, though the enlargement of the gland is not near so considerable, yet they suffer much more from it. In common, the opulent of those

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who have the complaint in a considerable degree, will be rendered incapable of enjoying life; the poor of getting their living: Dr. Hunter observed, in his lectures, A. D. 1771, that sometimes this tumour contains water, but now and then suppurates.

The *bronchocele* should be distinguished from a scirrhus, also from an aneurism, and particularly those swellings in the neck that arise from strains, ruptured vessels, &c. It is the natural, not the accidental, above described, and which arises spontaneously as it were, that is curable, and not those from external and other manifest causes.

This tumour is not apt to become cancerous. Mr. Gooch says, he never knew this disease to endanger life, however large it was; but he observes a considerable inconvenience from it, in cases of quinsey attending with it. Mr. Sharpe mentions, that the only cases requiring bronchotomy, were owing to the presence of *bronchoceles*. Dr. Hunter has noticed, that this disorder appears two or three years before or after menstruating; and that it sometimes spontaneously disappears, if the menstruation approaches kindly; and Mr. Prosser adds, that often this change in the constitution, does not seem at all to affect the tumour, but it continues to grow as before.

Some have observed, that the drain of an issue, or of a perpetual blister, applied on some other occasion, has prevented the growth of the *bronchocele*; the issue or blister being dried up, the tumour in the neck would increase faster; and upon the issue's being opened again, or the discharge of the blister, it would be somewhat funk, or however its growing bigger, prevented. But on this method no dependence can be had. By reason of its situation, it cannot be extirpated; it is so entangled with the recurrent nerves, the first branch of the external carotid artery, &c. that those who have attempted to dissect it, were glad to desist: and if, by chance, a suppuration is formed,

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an ill conditioned ulcer is the consequence, and very difficult of cure. If it can be discussed, that mode of relief alone can be prudently attempted ; and thus Mr. Prosser has succeeded in many instances. On this plan, the late famous Coventry medicine was formed. Mr. Wilmer has inserted it in an Appendix to his Cases, &c. in Surgery. It begins with an emetic the day after the moon is at full, and the day after that a purge ; the night following, and seven nights successively, the following bolus must be laid under the tongue at bed time ; and on these seven days, a bitter stomachic powder should be given at noon. The bolus to be laid under the tongue, is formed of calcined sponge, cork, and pumice-stone, of each ten grains ; syrup, a sufficient quantity. But to proceed to that method, by which Mr. Prosser assures us the spontaneous or curable cases are relieved, he says, that several have succeeded by the use of his medicines, though they were nearly advanced to their twenty-fifth year, which was more than twelve years after the appearance of the tumour on their necks ; after the twenty-fifth year of the patient's age, no instance of success has occurred. He orders one of the following powders to be taken early in the morning, an hour or two before breakfast, and at five or six o'clock in the evening, every day for a fortnight or three weeks. The powder may be taken in a little syrup, or sugar and water, or any thing else, so that none is lost. If it does not fit well on an empty stomach, it may be taken betwixt breakfast and dinner.

R_z Cinnab. ant. op. levigat. Milleped. ppt. & pulv.
aa gr. xv. Spong. calcinat. 3j. m.

After these powders have been taken for two or three weeks, the patient should omit them for about a week, or nine days ; then begin with them again, and take as many more, after the same manner ; and also at bed-time, - every night, during the se-

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cond course of the powders, three of the following pills are to be taken.

R Hydrargyr 3v. Terebinthinæ Strasburgensis. 3ij.
extracti colocynthidis comp. 3iv. pulv. rhabarbari 3j.
Rub the quicksilver with the turpentine till it disappears, then beat the rest into a mass. Should the turpentine be too thick, add a little olive oil. Divide this quantity into ninety-six pills.

These medicines do not require any confinement, except they are taken in severe weather, and then it may be only to the house; nor need the diet be much regarded. It may be sufficient that the medicines are taken in a temperate season, or rather warm weather, and the patient lives exactly in the usual way, taking some care against catching cold, during the second course of the medicines. The patient should avoid standing, especially at the washing-tub, or such other work as is done with cold water. As to diet, when no alteration has been made in it, the success has been the same as when stated regulations were regarded. In this, discretion may occasionally direct. If the pills continue to purge, after taking them a few days, it would be better to leave out the extr. colocynth. in the preparation of the pills, and substitute its weight of liquorice-powder, that the mercury may remain in the same proportion. In general, it will be proper for the patient to be purged twice or thrice with manna and salts, or any gentle cathartic, before the powders are begun with. The medicines are here proportioned for an adult of a good constitution; therefore, if the patient is younger, or of a weakly habit, the doses must be managed accordingly. As to external applications, they may be hurtful, but do not appear likely to be useful.

The patient must not expect to find benefit in a little time; perhaps it will be as long after the medicines are all taken, as the time they are in taking, before much difference will be perceived in the tumour

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of the neck. It is necessary that the medicines be begun with at a proper time, especially the second course; a few days should always be dispensed with on that account.

Amongst the earlier writers, Albucasis is the first who gives any useful account of this disorder. See it translated into *Friend's Hist. of Physic*, and into *James's Med. Dict. art. Bronchocele*. See also, *Turner's Surgery*, vol. i. p. 194. *Wilmer's Cases and Remarks in Surgery*, in the appendix. But the best of the moderns on this subject is an Account of the Method of Cure of the Bronchocele, by Thomas Prosser, edit. 3. *Gooch*, in his *Med. Obs.* gives an instance of an aqueous bronchocele. *Bell's Surgery*, vol. v. *White's Surgery*, p. 289. *Memoirs of the Medical Society of London*, p. 217.

BUBO. A bubo, from *βουβων*, the groin. Vogel, names it bubon when in the groin, it is called also, *cambrica*; *cambrica membrata*; *condonscella*; by some it is called *fugile*, and *aden*. It is a tumid gland which is inflamed, or tends to suppuration: but it is generally understood only of those glands which are in the arm-pits, or the groins.

Dr. Cullen ranks this genus of disease in the class *locales*, and order *tumores*. He defines it to be the suppurating tumour of a conglobate gland. See his *Nosology*, edit. 3.

Buboës are distinguished into mild and malignant; the mild is when no manifest previous disease is in the body; the malignant is when some pestilential disease, or some infectious one, excites them, as in the plague, *lues venerea*, &c.

The chief danger when *buboës* arise, is from the bad habit of body, or some attendant disease; if neither of these accompany them, at the worst they are but a little troublesome.

The cure of the mild kind will easily be effected by gentle mercurials externally applied, and a purge now

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and then ; though if a suppuration threatens, it is best to encourage it, and proceed as in a common abscess.

A pestilential bubo is known by its appearing at the time of a pestilence, and being attended with more or less of its symptoms ; though, indeed, the bubo is the first symptom in some patients, at a time of pestilence. The appearance of a bubo, when the plague either prevails or attacks a person, is generally a happy presage, and in the management of it, repellants must not be used, but encourage suppuration ; and as soon as a tumour appears, which, in this case, though the arm-pit is the general seat, yet it may be in any other part, as in the groin, the parotid glands, &c. apply the speediest suppuratives, and second them by the use of cordial antisceptics inwardly.

A venereal bubo. These very rarely happen anywhere but in the groin, though instances have occurred in which the arm-pits were the seat ; they tend very slowly to a suppuration, and while no tendency to a suppuration appears, it is best to disperse them ; but if nature directs it, let suppuration be encouraged ; at the same time let anti-venereal alteratives be used internally.

In the beginning, these tumours are sore, if touched, hard, and gradually increasing, they become painful ; and if they tend to suppurate, an inflammation appears.

The venereal virus thickens the lymph in those glands which are the seat of this disease, whence secretion is rendered difficult in them, then impossible, and at length they swell, &c. Sometimes this sort of *bubo* arises solely from the venereal contagion directly passing to the affected gland, and there fixing itself ; the *bubo* is then the essential disease. Or a gonorrhœa being suddenly stopped, or being too small in its discharge, a *bubo* arises, and is a symptomatical disease : if it arise,
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without any late contagion, it then is the pathognomonic sign of a latent pox.

This tumour should be distinguished from those that are simply inflammatory, pestilential, strumous, or the critical discharge of some other disorder ; and when in the groin, it must be distinguished from the epiplocele, and the enterocele. Also from the detention of a testicle in the groin.

In order to the cure, when venereal, the chief consideration is to destroy the venereal poison with which the body is contaminated ; this done, the *bubo* is no other than a simple tumour or abscess in the part ; this being duly adverted to, if the *bubo* is but in its beginning, it may generally be dispersed by bleeding, if the habit is inflammatory, or a sanguine plethora is manifest ; and by rubbing as much of the *ung. hydrargyri fort.* on the patient's groin as he can bear without salivating ; gentle purging, at proper intervals, and a cooling diet, assist this intention. But if, by the increase of the inflammation, it appears that a suppuration is likely to follow, the sooner this state is completed, the more perfect and satisfactory will be the cure. The common bread poultice applied warm, or, if this cannot be complied with, a soft plaster, on which is galbanum, may be applied ; all evacuations must now be forborne, and the diet may be more generous. The prominent part of the suppurated should be opened with a caustic, and the ulcer treated as is common in venereal cases.

The *buboës* that are scirrrous or cancerous, are best if left quiet, especially while they are easy : when they are painful, treat them as occult cancers.

Vide *Heister's Surgery*. *Astruc* on the Venereal Disease. *Chapman's Abridgment of Astruc*. *Bell's Surgery*, vol. v. *Wallis's Sydenham*, vol. i, p. 143. *White's Surgery*, p. 20. *Plenck* on the Lues Venerea. *Swediaur* and *Bell* on the Veneral Disease. Also *Foot* and *Hunter*.

BUBONOCELE, from *bouēw*, the groin, and *κύνη*, a tumour.

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tumur. It is also called *hernia inguinalis*, or rupture of the groin; and is when the intestines force the integuments through the ring of the external oblique muscle of the belly, or, as Dr. Freind remarks, through the cavity in the thigh, between the *pectenius* and the *sartorius*, though this latter is called *hernia femoralis*, or *cruralis*.

The cause may be great distension of the bowels from wind, violent exercise, as leaping, lifting burdens, &c.

The signs are, a tumour in the groin, or upper part of the scrotum, beginning at the ring of the abdominal muscle, and extending more or less downward towards, or into, the scrotum, in men, and the labia pudendi, in women. This tumour appears differently to the touch, according to its different contents. If a portion of the ileum forms the tumour, its surface is smooth and renitent, but much more so if the patient coughs or sneezes. If only a piece of the omentum has slipped down, the tumour is more flabby when felt, its surface is more unequal, and it makes less resistance to the finger. If both the intestine and omentum are descended, the diagnostics will be less distinct, and requires generally some experience to assist in judging of what can hardly be learnt by descriptions.

Be careful not to mistake this disorder for the hydrocele, nor the tumour of the testicle called *hernia humoralis*, nor a bubo, or other glandular swelling in the groin; nor with a testicle detained in its passage through the groin, nor with the hydrocele of the spermatic cord. It may be observed that the greatest pain in the *bubocele*, is at the pit of the stomach, which arises from the omentum, which is connected with it.

To reduce the hernia, without cutting or eroding the part, is called *taxis*; and when it is thus reduced by the hand, if the rupture consisted of a portion of the intestine only, it generally slips up at once; the patient being laid on his back, with his heels brought near to his

his buttocks, assists the return of the protruded parts : if a piece of the omentum is the contents, its return is not so speedy ; if there is both omentum and intestine, the latter ascends first, and the former feels flabby, but soon after it also follows. Sometimes, after the intestine is returned, a soft knotty substance remains unreduced, and resists all the efforts to reduction, until the patient's vessels are emptied by bleeding, repeated purges, and a low diet ; the varicous feel which this substance has, seems as if it was the mesentery with its vessels distended.

In infants, the reduction is generally easy, and as they get strength they are less subject to a relapse. In the vigour of life, the return is generally more difficult, and the neglect or bad management more dangerous.

The greatest mischief to be feared is a stricture, which is made by the borders of the aperture in the tendon, through which the intestine passed ; and of this accident there is greater danger in the robust, than in infants and valetudinary men. If no appearance of this symptom attends a patient, the use of gentle means alone are to be admitted ; but a stricture demands instant help in every circumstance.

The cure is palliative or radical : the means are the same in both kinds ; the event depends on what is not within the reach of art. The surgeon's part is to reduce the prolapsed bodies, and with a proper bandage to prevent their descent ; if nature lends her aid, the aperture may be so contracted as to remove our fear of the parts returning. It is true, circumstances may attend, in different cases, which may require some difference in the management. Vide Article HERNIA.

When the case is such as to require an operation, the cause of it is, an increased degree of what renders reduction difficult, i. e. of the stricture. In this case, the pain in the groin is great, as also in the belly ; the fever, nausea, and suppression of the intestinal discharges,

charges, all increase, as does the tension of the belly, &c. But as great nicety attends the determining when to use the knife, every operator, on such an occasion, will take the advice and assistance of those, whose experience has enabled them to act with most advantage.

To proceed in the operation, shave the pubis and groin, and in order to have as much empty space as possible for the return of the protruded parts, the patient should be advised to empty his bladder entirely, then having laid the patient on his back, on a table of a convenient height, with his legs hanging easy over the end of it, with a straight dissecting knife, an incision must be made through the skin and membrana adiposa, beginning just above the ring of the abdominal muscle, and continuing quite down to the inferior part of the scrotum; upon the division of the membrana adiposa, some small tendinous bands appear distinct from each other, lying close upon the hernial sac, which are next to be divided: here caution is necessary, as the sac is thinner in some parts than in others: even this external incision of the teguments ought to be made with great caution; for although in by much the greatest proportion of hernial swellings, the spermatic vessels lie behind the protruded parts, yet on some occasions they have been found on the anterior part of the tumour; so that in order to avoid the risk of wounding them, as soon as the skin is divided, the remainder of the operation ought to be done in the most cautious manner, care being taken to avoid every large blood-vessel that makes its appearance. The incision in the sac is best made about an inch and a half, or two inches below the stricture, and need be no more than such an aperture as will just admit the extremity of the probe, into which opening introduce one, and if it will go up and down, then enlarge it with a probe-pointed bistoury, sufficient to introduce your finger to divide the whole, remebering to divide it downwards first, which

which gives more room, and lessens the hazard of the intestines getting round your knife, and being wounded by it, which might easy happen in dividing it upwards first. The fore-finger introduced into it is the best of all directors, and upon that finger a narrow bladed curved knife, with a bold probe point, will be the only instrument necessary to finish the operation with. With this knife on the finger, the sac should be divided, first downward to the bottom of the scrotum, then upward to the ring. Upon the first division of the hernial sac, a fluid is discharged, differing in quantity, colour, &c. in different patients. In opening the sac, great care is required to evade wounding its contents. The sac being fairly divided up to the ring, the intestine pushes out, and seems to be more in quantity than it did while in its confinement. At this juncture, if the quantity of the protruded intestine is not very great, try to reduce it, by first pulling down a little more, for thus its bulk being lessened, it perhaps may pass without dividing the ring. If this does not succeed, you must divide the ring; which may be done, by introducing your nail, between it and the intestine, and cutting downwards upon it, or with a director upwards, with an obliquity inwards. If the contents of the sac are found, immediately reduce them, remembering to bend the thigh upon the pelvis, and to return the last protruded parts first. Slight adhesions may be separated with the finger, or snipped with the scissars. When one part of the gut adheres so firmly to another, as to render the separation difficult, it is better to return the whole in that state into the abdomen. When the adhesions are between the gut and the sac, or the gut and omentum, a small portion of either the sac, or omentum, may be cut away.

When a part of the omentum is mortified, or thickened and collected into lumps, it may be cut away with a pair of thin edged scissars, and if a vessel of any size is wounded, pass a ligature round it, without including any

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any of the membrane, and leave the threads hanging out at the wound. Remember to expand the part intended to be cut.

If a portion of the intestine is mortified, secure it with a ligature, to the parts most contiguous to the wound. When the mortification extends to any great extent, the patient will certainly die, and the only chance of saving him, is to cut away the mortified part ; and if the quantity removed is not so considerable, as to prevent the ends of the gut from being brought in contact with one another, it should be immediately done. Vide article **GASTRORAPHIA**. If this cannot be effected, as the gut must here also be connected with the parts contiguous to the wound in the abdomen, a passage for the fæces will still be secured. The wound may be brought together by sticking plaster. The patient should be so placed in bed, as to have his loins elevated in some degree above the rest of his body. Opiates should be administered, and inflammation prevented by bleeding, and low diet. If the patient's constitution is weak, blood-letting must be avoided, and a generous regimen prescribed.

When women are the subjects of this operation, it is performed in exactly the same manner. Vide *Post* on Ruptures. *Le Dran's Operations in Surgery*. *Sharp's Operations of Surgery*. Lond. Med. Obs. and Enq. vol. iv. *Bell's Surgery*, vol. i. *White's Surgery*, p. 318.

BURSÆ MUCOSÆ, called also *bursæ tendinibus subjæctæ*; and *facculi mucosi*. Small membranous bags, seated upon or very contiguous to the different large joints. They contain a fluid, which seems intended for lubricating the parts upon which the tendons move, that pass over the joints. They are to be found in other parts of the body, but chiefly about the hip-joint, that of the knee, ankle, shoulder, elbow, and wrist. In consequence of contusions and sprains, and not unfrequently of rheumatism, there is sometimes a considerable

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derable accumulation of fluids in these sacs, attended with much pain. The swelling yields to pressure, but is more elastic, than where ordinary matter is contained. The skin always retains its natural colour, unless it be attacked with inflammation.

When these tumours arise from rheumatism, the contents are commonly thin. But when from sprains, there are a number of small firm concretions in the fluid. When these concretions are soft, they may be distinctly felt beneath the fingers, on examining the tumour. The cure for these collections, when they proceed from rheumatism, is generally obtained, by keeping the parts warm with flannel; by frequent frictions, by warm water frequently pumped on them, or by the application of blisters. When they arise from sprains, and from their size become troublesome, the only chance of relief, is by opening the sac, and keeping it open, till the wound fills up with granulations from the bottom. When the contiguity of tendons prevents their being opened to their full extent, Mr. Bell recommends to lay them open at each end, and after pressing out their contents, to pass a small seton, or chord, from one opening to the other. *Vide Bell's Surgery, vol. v. and Monro's Description of the *Bursæ Mucosæ*, and their diseases.*

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CÆSAREO SECTIO. *The Cæsarean section, or operation, called also hysterotomy, and hysterotomacia.* Is the extraction of the fœtus from the uterus, through the teguments of the belly. It is said, Julius Cæsar was brought into the world this way; hence it is termed the *Cæsarean* operation. The causes that may render this operation necessary, are the brim of the pelvis being too narrow to admit the child to pass, and from the child's being forced into the cavity of the abdomen, by a rupture in the uterus. It may also be performed to save both the mother and child, when the child cannot be extracted in any other manner; to save the mother when the child is dead, or to save the child after the mother's death. The mode of performing it is this:

Lay the patient upon her back on a firm table; secure her hands and legs, elevate her head moderately with pillows, and raise her thighs. Then with a common round edged scalpel, make an incision of about six inches in length, through the skin and cellular substance, on one side the abdomen, beginning about two inches above the umbilicus, on the outer edge of the rectus muscle, and from thence in a perpendicular direction downwards. Now lay the uterus bare, by dividing the tendinous parts of the abdominal muscles and peritonæum, and make an opening of the same length into the uterus, by first making a small opening with the scalpel, to admit the finger, upon which introduce a probe-pointed bistoury, to finish the incision. The muscles and peritonæum may be divided in the same manner. If any large vessels are cut, secure them with a ligature of sufficient length, to leave the ends hanging out at the wound. Now take out the child.

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child and the placenta. Remove the effused blood with a sponge. If any of the intestines protrude, replace them, and secure the external wound with the interrupted stitch; cover the wound with a pledgit of emollient ointment, and support the abdomen with several turns of a broad flannel roller. Vide *Heister's Surgery*, and his *Institutes of Surgery*, p. 11. v. cap. 113. Mem. de l'Acad. Roy. de Chirur. vol. i, p. 623, and vol. ii, p. 308. *Edin. Med. Essays*, vol. v. art. 37 and 38. *Lond. Med. Obs. and Enq.* vol. iv, p. 261. Dr. *Vaughan's* (of Leicester) *Account of the Cæsarean Operation*. *Bell's Surgery*, vol. vi, and *White's Surgery*, p. 451.

CALCULUS. The gravel and stone. The Greeks call this disorder *lithiasis* and *adamitum*. The Latins named it *calculus*; and we understand by GRAVEL, small stones that pass from the kidneys through the uretus, &c. in a few days; and by the STONE, a calculous concretion in the kidneys, or in the urinary bladder. What is called a fit of the *gravel and stone*, is, when from the stony concretions in the kidneys, &c. there is pain, &c. when nature endeavours to discharge them. The symptoms of a stone in the bladder, will differ in degrees according to its size, its figure, smoothness, or roughness, or degree of motion which it may have from the state of the bladder, whether preternaturally sensible or not; hardened fæces, or some change in the neck of the uterus. An enlarged prostrate gland, accompanied with an extreme sensible state of the bladder, will produce the same symptoms as a stone, and ulceration of the vessels. The symptoms are an extraordinary secretion of mucus, with various degrees of pain; sometimes a discharge of red globules of blood. Irregular constrictions of the bladder, tenesmus, an uneasy sensation along the urethra; a stoppage of urine, either by a spasmodic action of the sphincter vesicæ, or the stone plugging up the canal. The stomach and intestines are sometimes affected, occasioning vomiting and cholicky pains.

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The signs of a *stone* in the kidneys are, an obtuse pain in their region; a nausea, sickness, and frequently a vomiting; a titillation at the point of the penis; costiveness, and flatulency; the pain sometimes extends to the groin, the hip, or to the neighbouring testicle; there is a chilness, shivering, and difficulty of breathing; the leg, on the same side with the affected kidney, is sometimes contracted, and at others benumbed; the urine is discharged frequently, but with difficulty and in small quantities, or it is totally suppressed: but as a distinguishing sign, the sediment of the urine may be attended to, for it subsides directly; if then this, with the other named symptoms attend, the patient's case is manifest.

As to a *stone* in the urethra, it may be detained in various parts, but its situation may easily be known by the pain or by a catheter.

Pain in the loins from the *gravel* or *stone* in the kidneys, should be distinguished from that which is caused by spasms, such as frequently happen in nervous diseases; from the cholic, which it much resembles in the beginning of the fit; from the lumbago, and from pain in the psoas muscle; also from the gout in the parts, or a latent intermitting fever there. The *stone* in the bladder should be distinguished from the gout, and from a latent intermitting fever affecting it; from spasmodic symptoms; from the pain excited by sharp urine, or other acrid matter descending from the kidneys, or otherwise introduced into it; an abscess in a part adjacent pressing forcibly against it; an ulcer, or other disorder in the uterus; and any complaint in the *intestinum rectum*.

A *stone* in the kidneys often brings on a *tabes renalis*. When the violent pain has continued for several days and nights without intermission, and has exceedingly reduced the patient, if the extremities become cold, or if the urine continues to be totally suppressed, death is to be expected. If a *stone* continues long in the *ureter*,

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ureter, or in the urethra, the appetite begins to fail, a nausea comes on, and a hectic heat approaches, the danger is great. An inflammation of any of the viscera approaching, is also fatal.

In administering remedies for the relief of these disorders, it should be remembered, that during the fit, the treatment must be very different from what it is in the absence of it. During the paroxysm, the inflammation is removed by bleeding, emollients, and terebinthine clysters, in which is the oleum ricini; this oil should also be given by the mouth as a purge; warm baths should also be made use of; and when the inflammation is abated, opiates, with oily emollient decoctions, may be given. In general, plethoric habits are relieved by proper bleeding. While the violence of the pain continues, with difficulty in the discharge of urine, nothing affords greater relief than emollient oily clysters, warm bathing, and the pediluvium. Fomentations made with the flor. chamæmil. &c. and applied to the part most pained, considerably allay the pains and spasms.

After the fit is over, begin with a cautious use of diuretics and lithontriptics; and when there is no inflammation nor pain, the aqua kali may be given in small quantities.

The best mode of preparing and administering it, is thus: Take of kali prepared, eight ounces; of fresh quick lime four ounces; of distilled water a quart; mix them well together in a large bottle, and let them stand for twenty-four hours; then pour off the ley, filter it through paper, and keep it in closed stopp'd vials for use. Of this the dose is from thirty drops to three or four drams, repeated three or four times a day. Mix the quantity to be used in the day with three pints of plain broth, which has been made with the lean part of veal, all the fat or oily parts being separated from it, by putting it, when made, into a large bowl, and skimming them off when cold, and let the patient drink,

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within an hour, a pint of this broth three times a day, early in the morning, at noon, and in the evening: continue the use for three, four, or more months, observing such regimen as will not counteract the medicine.

Lately, the following solution of the vegetable alkali, fully saturated with fixed air, aerial acid, has been recommended. Take kali prepared, half an ounce; distilled water, flj. ss. let the kali be dissolved, then fully saturate the solution with fixed air. Three ounces of this may be taken twice a day, and, if the stomach will bear it, the dose may be increased.

The diet should be light, and of a laxative kind, exercise moderate, but as constantly as the strength, &c. will admit of. The water that is drank, and all the liquors that are of a watery kind, must be, from such supplies as are absolutely free from mineral impregnations.

Lithontriptics, are to be used during the intervals of the fits; but as some stones are only soluble in alkaline, others only in acid, and others again in no known menstruum, before any of this kind of medicines are used, the nature of the offending *calculi* should be known: this discovery is easily made by an attention to the fragments, &c. that are cast off, or to the contents of the urine.

Bleeding. During a fit, if the habit is plethoric and sanguine, this evacuation both guards against and removes inflammation, and also tends to relax the rigid fibres. As to those persons who are subject to regular returns of the gravel, they should lose blood a little before the return is expected.

Diuretics. These should never be of the forcing kind; the emollient and oily are the most proper, and after them diluting ones, both by the mouth and by glysters frequently repeated. In general, the more painful the fit, the gentler should the diuretics be, and the less copiously given. The aged and weak should be

be allowed the use of cordials with their dieuretic medicines. A very free use of diuretics injure the kidneys; however, when the pain and spasms are very violent, and there is yet hope that the *stone* may pass the urinary ducts, gentle diuretics, mixed with mild anodynes, do most service; for the latter relax the parts and ease the pain: and the former then more easily and safely propel the *stone*. When gravelly matter is discharged with the urine, and subsides presently after it is made, light steel waters, either of the purging or of the diuretic kind, very safely and effectually expel it, and strengthen the kidneys; the water should be continued some weeks, and repeated at proper intervals. But if a *stone* in the kidneys is so large, that there is no hope of its passing through the ureters, the steel waters should not be used.

Purges. Of all the purging medicines, the oleum ricini is to be preferred in *calculous* disorders; whether a *stone*, or other cause of inflammation, produce gravelly symptoms, after bleeding, emollient and lubricating medicines will be necessary. To these ends, and to relax the passage for the calculus to pass from the kidneys to the bladder, this oil conduces in a particular manner, beyond any other medicine: it should be given both by the mouth and by glyster. In want of this oil, manna with nitre, or sal cath. amar. mixed with the oil of almonds, must be used; for they both empty the intestines, and take off all pressure upon the ureters, they also moderate the heat of the body, and lessen the inflammation; thus they relax the spasm too, which the pain occasions. If the ol. ricini is taken in the fit, so as to keep the belly lax, and the lixiv. sapon. is taken at proper intervals, mixed in any suitable vehicle, their efficacy in *calculous* disorders will equal that of the most boasted nostrums used in these cases. In slighter cases, where gravel is to be carried off, give a mixture of soap four parts, and rhubarb one part, twice a day, in doses sufficient for keeping the bowels easy.

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Glysters. Their use is singularly beneficial. The colon forms a kind of arch over both the kidneys, is sometimes joined to the left, and consequently, if a warm emollient decoction be thrown up into it, it may, by its heat and moist vapour, relax and soften the kidney like a fomentation. Hence we see why wind in the first passages, and much hard dry excrement, usually occasion such grievous disorders, as to bring on a fresh fit; also why the left kidney is more subject to complaints than the right. The ol. ricini is peculiarly useful in emollient glysters; and turpentine dissolved with the yolk of an egg should be a part of their composition: or, Rx Decoct. pro enemac. $\frac{1}{2}$ ss. bals. cap. vitel. ovi admixt. 3 ij. ol. ricini 3 ij. m. f. enema. To this glyster thirty drops of the tinctura opii may be added, when the pain is great.

Opiates. When the vomiting abates, the stomach and bowels freed from their foul contents, and the belly rendered soluble; it is proper to give opiates, which, by easing the pain, and relaxing the spasmodic tension of the fibres, most effectually open a passage. As to their repetition, it can only be determined by the attending physician. When the pain is of very long continuance, and attended with great prostration of strength, especially if these occur in advanced age, and with a weak state of the pulse, Hoffman forbids the use of opiates, as of a poison; and says that in such cases, gentle cordial waters, as those of mint, balm, and cinnamon, and the moderate use of wine, are the best means for supporting nature. Yet, if the loss of strength is caused by the violence of the pain alone, opiates will be necessary.

Lime-water seems to be useful, by depriving the calculus of its oily particles, and volatilizing the salts, and so destroying the cement of its parts.

The *semicupium* is a necessary assistant when the pain is violent, for it powerfully relieves the stricture of the part.

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part. After sitting a sufficient time in it, let the patient take from gr. ten or twenty of the pilul. ex opio, and go to bed.

Vomiting is sometimes a troublesome symptom, but if not very severe, it is rather useful, so not to be suddenly checked. Whilst moderate, it rather prevents the cohesion of the gravel, and promotes its expulsion. When it is necessary to remedy this complaint, let the patient drink freely of some warm aqueous liquor to free the stomach from its contents: and, if need be, give the saline draught in the act of fermentation, and in a few minutes after it give the following: Rx Tinct. beuzoës compost. gutt. xxx. tinct. opii gr. xx. aq. menth. ʒ j. m.

If a stone sticks in the kidney, or the ureter, medicines are unsafe that expel, by their stimulating effects, and a plentiful use of diluents are thrown up without producing any advantage to the patient; but when the anodynes, oily medicines, &c. have considerably abated the spasms, when the pulse is grown calm and soft, and the whole body is of a moist and equable heat, then the expulsion of the stone or gravel may be attempted, by giving very gentle expellents now and then.

Bloody urine is sometimes a symptom attending the gravel, in which case, a dose of manna may be taken as a purge, in a quart of milk whey; this may be taken at several draughts. To quicken its operation, and render it easier in the stomach, a slice of lemon may now and then be sucked. This may be repeated twice in a week, for it both eases the pain, and moderates the discharge of blood. After its operation, let a dose of opium be taken at bed-time. If the bloody urine is from the bladder, and is attended with spasms there, or an ulcer, warm external applications are useful, such as bladders of warm water laid just above the pubes.

Spasms in the bladder, are often very troublesome. Whilst they are actually present, and are attended with pain and difficulty of urine, emollient oily glysters, baths,

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baths, and half-baths should be used, and internally give almond emulsions, with nitre, castor, and Hoffman's mineral anodyne liquor. If a translation of rheumatic matter caused the spasms, issues may be used, and perspirative anti-rheumatics.

When *calculous complaints attend during pregnancy*, if the pain is violent, bleed moderately, give oily medicines by the mouth, and glysters, such as are directed above, may be repeated as oft as the state of the case may seem to require; and if these fail, give opiates so as to procure rest. If a stone be perceived in the bladder, it should be extracted before pregnancy; but if the woman is already pregnant, wait until her delivery, for fear of inflammation. During the time of labour, the stone should be pushed and kept up above the child's head, if possible; if this cannot be done, the assistant must pass up his hand as soon as the os internum is sufficiently dilated, and, breaking the membranes, turn the child, and bring it away footling, then there will be room for the stone to be raised by the catheter, to prevent the child's head from pressing it against the urethra, which would give the woman great pain, and perhaps lacerate the parts.

As a preventive of the *gravel, &c.* Dr. Hales proposes for the patients at all times, to lie with the head and upper parts of the body considerably higher than the lower: for thus the urine is not detained so long in the kidneys as to allow its tartarous parts to attach to each other.

The *uva ursi* in powder, and given from 3 j. to 3 j. twice a day with the common emulsion, in which should be double the quantity of gum arabic, is often productive of every desirable advantage. An infusion of the seeds of wild carrot is deemed almost a specific. Acids are as powerful solvents of some calculous concretions, as the caustic lixivium is of others, and of this kind the acidum muriaticum may be preferred. *Vide Boerhaave. Aretæus, Alexander Trallian, Lommius, Hoffman's Med. Rat:*

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Rat. Syst. *Sydenham*. *Lobb* on the Stone and Gout. Medical Museum, vol. iii. *Bell's* Surgery, vol. ii. *White's* Surgery, and Memoirs of the Med. Society, vol. i.

If a stone is obstructed in its passage through the urethra, and the urine requires to be drawn off, though this is difficultly effected, yet, if possible, it must be done; after which, a little warm oil should be injected up the urethra, and repeated every hour; then bleed the patient, give him an emollient clyster; after its operation, an anodyne draught will be proper, plenty of the common emulsion should be drank, and the patient being placed in a warm bath presently after the glyster is administered, and the oil injected, often facilitates the exit of the stone.

CANCER. *Kαρκίνος*, a crab. By the term *cancer*, the Roman writers understood what the Greeks called gangrene, and sphacelus; but the disease now called *cancer*, is what the Greeks and Romans meant by *carcinomia* and *carcinos*.

Cancers are divided into occult and open. By the former are meant such hard schirrous swellings, as are attended with frequent shooting pains, and which in general ultimately terminate in the latter. By the *open cancer*, is understood those sores succeeding hard swellings of the glands, but in some cases there is no previous hardness. The edges of the ulcer are hard, ragged, and unequal, and very painful, generally discharging a thin dark coloured foetid ichor, frequently so sharp as to corrode, and sometimes destroy the neighbouring parts. In advanced periods of the disease, blood is very often discharged from the blood vessels being eroded. A sense of burning heat over the whole ulcerated surface, is almost an unerring symptom of cancer. Dr. Cullen places this disease in the *class locales*, and *ord. tumores*. Though any part of the body may be the seat of this disorder, a gland is generally its immediate situation. In men, it most frequently seizes the tongue, mouth,

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mouth, or penis; in women, the breast and the uterus; particularly about the cessation of their periodical discharges; and in children, the eyes.

The only cure for this disorder is the knife, or cauter, but when these are not used, the treatment is only palliative.

If the tumour firmly adheres to the subjacent part, it can neither be extirpated nor wasted away by a caustic: if it is moveable, it may generally be taken away, if at a due distance from such blood-vessels as would endanger life by being wounded. In general, the larger are more dangerous than the lesser, the painful than the indolent, and the ulcerated than the occult. When a breast is once scirrhou, it seldom continues long in a state that threatens a *cancer*, without affecting the axillary glands, the other breast, or the uterus. Any kind of acrimony in the habit disposes a scirrhus to a speedy change into a *cancer*. When a *cancer* in any part is attended with a hardness of the adjacent glands, success has rarely followed an attempt to cure. In habits not otherwise disordered, an occult *cancer* should not be exasperated by emollients, stimulating applications, or intemperance, for then it may remain a long time without inconvenience; though at the cessation of the menses in women they will be exasperated, whence, if it can conveniently be done, it may be most proper to extirpate early.

The indications of cure are, 1st, to extirpate the tumour, and prevent a return of the disease: or, 2dly, to palliate when extirpation cannot be admitted.

The diet should be cool, moist, and light; the mind should be tranquil; and the body as free from violent action as possible.

If the cure is to be effected by extirpating the tumour (vide AMPUTATIO) and this method of relief is attempted, care must be had to remove all other *cancerous* tumours, the whole of each must be cleared away, and the habit of body must be corrected as much as possible;

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possible; and when the wound is nearly healed, it may be kept open in the manner of an issue.

Cathæretics are proposed for destroying the tumour, when the knife cannot be submitted to from the patient's dread of it. The most famed of these have arsenic in their composition. Mr. Plunket's application, is, on good authority, said to be as follows:

"Take of crows-foot, such as grows in low moist grounds, one handful; dog-fennel, three sprigs; pound them well: add to them three middling thimbles-full of crude brimstone, and the same quantity of white arsenic in fine powder. Make these into small balls, and dry them in the sun. These balls must be powdered and mixed with the yolk of an egg, then laid over the sore or *cancer* upon a piece of pig's bladder, which must be cut to the size of the sore, and smeared with the yolk of an egg. This must not be applied on a piece of bladder larger than half a crown, if the *cancer* to be extirpated is on the face: the same caution is required if it is near the heart; but elsewhere it may be spread the size of the sore. The plaster must not be stirred until it drops off of itself, which will be in about a week. Clean bandages are often to be put on."

When this caustic is applied to the nose or lips, it should be done with great caution, that no portion of it may be swallowed.

The arsenical preparation will answer best in recent cases, but it should never be used except the whole tumour can be removed. The crows-foot is added to destroy the skin, but this end will, perhaps, be better answered, by rubbing the part immediately over the tumour with antimon. nitrat. the day before the arsenical medicine is applied: this makes way for the action of the arsenic. Instead of the single mixture of brimstone and arsenic as above, the preparation of arsenic, called magnes arsenicales, should be used. This caustic does not destroy the gland, but only the substances all around it, so the tumour comes out as if it had been dexterously

dexterously dissected out. A patient should never go into a warm bath whilst arsenic is applied.

Several eminent practitioners have formerly encouraged this method, as Fallopius, Zaber, Sennertus, &c. but though on small cutaneous glands it may do, in the larger and deep seated it is unsafe; for by the irritation of those medicines, an inflammation, and, perhaps, fever are brought on, which are dangerous symptoms: and by the subtil penetrating quality of the arsenic, the life of the patient is also greatly hazarded, whatever be its mode of application and correction.

Mr. Pott observes, that, if a caustic is used, it should be such a one as will penetrate quite through the tumour, and effectually eradicate it at two or three times at the most; this the common ones will not do, for they only reach as far as into the cellular membrane, hence their frequent repetitions will be necessary. On every repetition of the caustic, the tumour inflames, hardens, and enlarges, consequently, it becomes, by such treatment, more and more untractable. Caustics harden the surrounding parts, and produce other ill effects, and this gave origin to that ridiculous idea of the scirrhus or *cancer* having claws or roots, &c. If caustics are used, the most active ones are to be preferred.

If the *cancer* is ulcerated, frequent dressing with dry lint, or such other things as experience manifests to be the least uneasy.

In general, the palliative method will be,

To avoid all external means while the disorder is in its occult state; to prevent its being handled, or pressed, by the cloaths, that it may be kept easy and cool.

To correct the habit of body, if any way disordered: and with the alteratives may be given small doses of hydrargyr, mariat. but with great caution.

To moderate pain.

To keep the body soluble with cooling medicines, such as manna, natron vitriolat. &c.

To bleed as often as the strength will admit of.

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To avoid cordials, exercise, or whatever can excite a greater heat than is proper to health in a state of rest.

A slight inflammation in the neighbourhood of the tumour which yet is in its scirrhouſe state, may be relieved by means of Goulard's saturnine water, and thus is hindered from degenerating into a *cancer*; but if the inflammation is considerable, a *cancer* cannot be prevented.

Bleeding is necessary, at least as often as pain and feverishness require it.

Purging should not only be used to prevent a costive habit, but also immediately after every bleeding, to increase its cooling effect.

Pain, when urgent, requires bleeding, cooling purges, a spare diet, that is thin and cooling, and anodynes inwardly. This symptom is also much relieved by destroying the sensibility of the parts by preparations of lead.

Fever. This requires the same means for its relief as are commended against pain; to which may be added any other febrifuge that the state of the constitution may seem to admit of. Milk and water, or a decoction of sarsaparilla, are convenient for common drink.

The best external medicine in the occult state is a well dressed hare's or rabbit's skin; for then all emollients, stimulants, and unctuous preparations are to be avoided.

When the *cancer* is ulcerated, the following is recommended:

R₂ Ungu. saturn. cum duplice quantitate ceræ albæ paratum. f. ceratum.

R₂ Pulv. e ceruf. C. mucilag. gum arab. āā 3ij. cerufæ acetatæ 3j. prohe contritis in mortario marmoreo adde sensim aq. calcis & rosar. ad 3vj. f. lotio.

After gently cleansing the ulcer, wash it with the lotion just warmed, then covering it with dry lint, or lint moistened in the lotion; lay over the whole a plaster spread with the cerate, which may extend somewhat over the edges of the sore.

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In general, that which is the easiest is the best; and often a cerate of oil and wax is preferred.

A mixture of vinegar, with twenty times its quantity of water, is sometimes of excellent use.

Goulard commends his saturnine preparations.

Tar-water, both inwardly and outwardly, has been attended with considerable advantage, and particularly when the disorder appeared at or about the cessation of the menstrual discharge.

Narcotic herbs, such as the solanum and cicuta, have been used with success.

Carrot poultices renewed twice a day removes the nauseous smell which attends *cancerous* ulcers. Fixed air applied to the ulcer has the same effect, if it is used every six, eight, or twelve hours, and after it, rags may be laid on the sore, after dipping them in lavender, or other odoriferous water, mixed with vinegar.

The hydragyr muriat. gr. ss. given night and morning, as in venereal disorders, with the decoct. sarsaparil. keeping the body lax, but not to purge, has been manifestly useful, though it is owned that its efficacy is less in cases where the ulcer is very considerable. It has often succeeded in *cancers* of the face and nose. The bark may accompany it when the habit is lax.

The bark and hemlock may very advantageously accompany the use of this mercurial medicine, and may, in general, be thus administered.

R Extract. cicut. g. v. vel plus bis in die.

R Infus. cort. Peru. 3ij. bis terve in die.

R Hydrag. muriat. gr. 1-16th, ad ss. bis in die.

If the mercury is not easy in the stomach, a few drops of the tinct. opii may accompany each dose.

In recent cases the hemlock is sometimes useful. Mr. Justamond intimates, in his Lectures on the Operations of Surgery, that the best way of using hemlock is to make a bath with it; when this bath is used, it must be tepid, and the patient may stay in it during fifteen

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or twenty minutes, and repeat it two or three times a week. He farther recommends as a powerful efficacious medicine, the ferrum ammon. internally; it may be given three times a day, beginning with ten grains made into two pills, and increase the dose as far as the stomach will bear it.

In the fourth volume of the Edinburgh Medical Commentaries, is an extract from a publication by Dr. Le Febure (a French physician) by which it appears, that the internal use of arsenic is frequently effectual in curing *cancers*. He says, that in some instances the cancerous virus is alkalescent, and in others it is acescent. His general method of administering this medicine is as follows:

R Arsen. alb. gr. iv. f. solutio in aq. font. Distil. libj. hujus solutio detur cochl. magn. cum lact. vaccin. cochl. magn. & syr. mecon. 3 ss. mane jejuno.

The arsenic is directed to be of a clear, white, shining appearance, and in small crystals; and every morning that the dose is taken, the patient must not take any thing after it during one hour. This course must be continued eight days, after which, a dose is to be taken in the same manner, twice every day; the first in the morning, the last about eight at night. At the end of a fortnight, three doses are to be given in a day; the third being taken about mid-day. Thus, women of weakly constitutions, may continue until a cure is completed. But with an adult of a good constitution, the dose may be augmented, by degrees, every eight days, till she takes six table spoonfuls of the solution every day: two table spoonfuls being taken for each dose, with as much milk, and half an ounce of the syrup of poppies. For children, tea-spoons must be used, and the dose should, on no account, exceed three of these, with a proportional quantity of the syrup. But, besides that, the solution of the arsenic is thus to be increased to a certain height, in point of quantity, the strength is also to be augmented. Six grains of arsenic

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may be dissolved in the second bottle of the solution, and eight in the third. But, besides this, Dr. Le Febure thinks it unadviseable to proceed. In general, he says, six bottles of the solution is sufficient for the cure of an open *cancer*; in one case, however, eight were necessary. He asserts, that this method is never attended with any ill accidents; and adds, that the arsenic does not act in any certain manner upon the secretions. A purgative, compounded of manna, rhubarb, and sal seignette, is to be given every eight or twelve days. Whey, with twelve grains of nitre to the bottle, or a weak decoction of the roots of marshmallows, with the same quantity of nitre, may be given for common drink. The belly is to be kept open by glysters of whey, bran-water, or pure water, with the addition of emollient herbs, if necessary, or a little honey. With respect to regimen, it is directed to abstain from wine, and fermented liquors. Broth, made with a little beef, veal, or chicken, are proper. Broiled, roasted, or boiled meat, ought to be taken in small quantity. Spinnage, lettuce, succory, or sorrel, may be given with advantage. Ripe fruit is not to be discharged. Rice cream, and milk in different forms, are a very proper part of diet. The doctor has sometimes been obliged to give the bark, and to open an issue, when the humours were either very alkalescent, or in very great quantity. He considers an issue as useful in every case. When the ulcer is cicatrized, he recommends cold or warm mineral waters, according to the circumstances of the patient, with a view of completing the cure, or where these cannot be had, he gives artificial ones. Besides this treatment by internal medicines, the method of dressing the ulcer becomes also an object of attention. If the tumour be not ulcerated, he directs it to be washed with a solution of arsenic, having eight grains in a pint of water. After washing with this solution, apply the following cataplasm: take of carrot juice, one pound; of sugar of lead, half an ounce;

ounce ; of arsenic dissolved in distilled vinegar, half an ounce ; of liquid laudanum, a dram and a half ; form the whole into a mass of a proper consistence. with as much powdered hemlock as is necessary. With part of this cataplasm the tumour is to be covered to a tolerable thickness, and the whole kept up with the common plaster. If the *cancer* be ulcerated, it is advised that the ichorous serosity be taken away at each dressing, by means of dry lint. The ulcer is then to be fomented with the arsenical solution, having the chill taken off it, and having about one third of red wine added to it. If the sore be of a very bad kind, it is advised that the arsenic be dissolved in a decoction of bark, for fomenting the ulcer. After this the cataplasm mentioned above, and the plaster are to be applied. This treatment must be renewed every twelve hours.

The *aura electrica* has been found to ease the pain, Most of the medicines here recommended have been found serviceable for a time, and then to lose their effect. The method, therefore, to procure the patient a continuation of relief, is by changing your applications. Vide *Le Dran's Operations*. *Boerhaave's Aphorisms*. *Med. Mus.* vol. i. p. 81, &c. and 338, et seq. *Lond. Med. Trans.* vol. i. p. 75. *Gooch's Med. Obs.* vol. iii. *Hill on Cancers*. *Bell on Ulcers*. *Justamond on Cancers*. *Bell's Surgery*, vol. ii. *Pearson's Princip. of Surgery*, vol. i. p. 209, et seq. and *Practical Obs. on Cancerous Complaints*. *White's Surgery*, and *Feevor on Cancers*.

CARBUNCULUS, a carbuncle, from *carbo*, a burning coal. Dr. Cullen places this as a variety of the phlogosis erythema, on account of its violence, making it synonymous with anthrax, and the erythema gangrenosum of *Sauvages*. Carbuncles generally appear suddenly and unexpectedly in an hour or two, and are attended with pain and heat. The inflammation proceeds so rapidly to mortification, that there is seldom any evident tumour raised, the parts turning black, and ending in real gangrene, frequently in twenty-

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four hours from the first attack. But when a tumour arises, as soon as it is opened, a livid sanies, or sometimes limpid water, is discharged. It is black within, which shews that a sphacelus has seized the subjacent flesh, and is making quick progress. In those that recover, a separation is made betwixt the sound and diseased flesh, by suppuration. There is no part of the body but what may be the seat, and they are generally attended with buboes. The proximate cause is the inflammation from pestilential contagion, with a putrefient state of the system. Danger is great when the colour is livid; the milder sort are first red and then yellow. When they are seated on the face, neck, breast, and arm pits, they are generally fatal. When they occur internally, upon any of the viscera, they must probably prove fatal. Externally, when they are not very extensive, nor seated in any of the large blood vessels or nerves, they are frequently got the better of, by removing the affected part. External applications should be only such as ease pain. *Vide Edin. Méd. Comment. vol. vi. p. 165.* *Heister's Surgery.* *Bell on Ulcers.* *Kirkland's Med. Surgery, vol. i. and ii.* *Pearson's Principles of Surgery, vol. i. and White's Surgery.*

CARIES, is a disorder of the bones, exactly of the same nature with a sphacelus, or gangrene of the soft parts. The causes are, whatever can by erosion, or otherwise, destroy the circulation in the whole, or any part of the bone, as, wounds in general, affecting either the periosteum or bones; violent contusions, and inflammations of the periosteum, terminating in abscess or gangrene; the acrid matter of ulcers penetrating and destroying the periosteum, and the improper application of sharp acrid spirits and powders to bones merely laid bare. An inflammation of the periosteum, tending to a gangrene, a caries of the bone, is known, first, from the signs of inflammation preceding; secondly, a freedom from pain in the affected part, *without*

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without a manifest cause, and from a dense, slow, increasing, and not very painful tumour of the incumbent parts. But among the signs of a beginning gangrene, the sudden removal of pain is fallacious, for this happens in inflammations of the periosteum, when the periosteum is corroded so as to admit the matter to escape betwixt the muscles ; though, in general, when pain is relieved by a resolution of inflammation, it goes off gradually only ; but a good resolution hardly, if ever, happens after a violent inflammation. Again, when a gangrene is threatened, the taint is propagated through the cellular membrane, which, by slight causes, is often raised into a large tumour ; but, as all the symptoms of an inflammation cease when a gangrene is present, the tumour will not have the hardness and resistance observable in a phlegmon, but will be flaccid, and hardly sensible of pain. If the incumbent part changes to a livid colour, the bone is then without doubt in a mortifying state.

Celsus judiciously observes, lib. viii. cap. 3, " We may soon, by means of a probe, discover a *caries* of the bone ; since the probe will penetrate, less or more, according as the *caries* is superficial or deep." When the probe comes to the sound part of the bone, it is resisted. Wiseman, vol. i. p. 296. edit. 5, says, " If the bone be bare, its corruption is easily discerned, though sometimes it be covered with a grumous or viscous matter, which rubbed off, the bone appears white, brown, or black. If the white be porey, the *caries* may be deeper and more dangerous than if it were black and hard. If the bone lie so hid as that you cannot feel it with your probe, yet you may judge it carious from the quantity or quality of the matter. If the bone lies near, and the flesh is lax and white, it is to be suspected that the bone is carious : but if the matter stink or be oily, it is a more certain sign of rottenness. Ulcers of long continuance near a bone do also foreshew a *caries*, according to Hippocrates. Also the difficulty

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difficulty in cicatrizing them, and the frequent and sudden eruption of them after they are cured, gives suspicion of a foul bone. But if the bone is much corrupted, the matter is fetid, and the probe will penetrate into it."

In living persons, the bones are of a reddish or bluish colour: the first sign of a vitiated bone, is a change from this colour to a white, yellow, dark, and at last a black one: a white denotes a beginning mortification: hence, when small perforations are made in a cranium thus affected, the first sign that a cure succeeds is, when the white surface of the bone begins to assume a reddish colour.

When a *caries* is under an ulcer, the flesh over the *caries* is soft, flaccid, fungous, inflated, and tumid; the lips of the ulcer inverted, the sanies clear, subtil, foetid, and full of small black scales, nor can the ulcer be healed, at least only superficially, and it soon breaks out again. Vide **ULCER** with a *caries*, under **artic. ULCUS.**

In the **Edinb. Med. Essays**, Dr. Monro gives a particular account of several species of this disorder, viz. The dry or gangrenous *caries*, which is, where the bone is smooth and firm, and throws out little matter; its surface at first is not of a very dark colour, but before exfoliation it turns very brown or black. This kind exfoliates with less difficulty than any other. The worm-eaten *caries*, or ulcer of the bones; this species has not such a dark colour as the former, it discharges more matter; the cavernous, or spongy texture of the bone is evident. The carneous *caries*, or ulcer of the bones with hypersarcosis; this sort differs from the worm-eaten *caries* only in the addition of spongy flesh growing in the cells of the bone; this spongy flesh often bleeds if touched with the greatest care. The phagedenic *caries* with hypersarcosis; in this case the periosteum is thickened, the bone softened, and its surface is eroded, a yellow red spongy substance sprouts out;

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out: the difference betwixt this and the carious *caries* is, that in the latter the spongy flesh grows out of the caverns while the grey or brown coloured spongy bony sides of them still remain; but in the former, the bony fibres disappear wherever the spongy flesh comes, so that we can scarce determine by the probe whether or no the bone is carious: upon scraping away this bone-consuming flesh, the surface of the bone appears rough indeed, but not much eroded, nor greatly altered in its colour. The scrophulous *caries*: this is sometimes observed when an abscess is opened; the bone at the bottom of it appears white and smooth, without its periosteum or connection to any of the neighbouring parts, except by its ligaments at the extremities; and this way of bones mortifying most commonly happens in scrophulous habits. The scirrho-cancrrous *caries*: in one species of exostosis the tumefied bone is softer in one part than in another, and is not composed of regular fibres, nor cavernous, but as if the ossifying juice had been thrown out irregularly; over which a cartilaginous or tendinous substance is spread, and from this a firm shining smooth flesh grows out, which, after the teguments are moved, sends forth a thin stinking acrid fancies; the patient complains often of throbbing pains in it, and sometimes considerable haemorrhages are made from imperceptible vessels in its surface. The spreading cancerous *caries*: in the spreading eating cancers, the bones are wasted, as well as the soft parts, and the appearances are the same in both, unless that the bones do not consume quite so fast.

It is necessary to examine strictly all circumstances, and to discover, if possible, what cause, either general or topical, may have occasioned the corruption of the bone, that endeavours may be used to remove it, if it still subsists: the lues venerea, scrophula, scurvy, gangrene, abscess, wounds, contusions, and many other diseases, may be the cause.

When the bone is perceived to separate, if the pus
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which flows from under it is mild and in a due quantity, it will be the best suppurant and incarner, and nothing is to be done but to remove the pieces of bone as often as they are perceived to be loose. If the quantity of pus is too small, dress it with ungu. resin. or other such digestive. If the opening in the integuments is so small that the matter detained is either absorbed into the circulation, or forms sinuous ulcers, the aperture must be enlarged by means of sponge tents, and kept so by dressings of lint. Indeed, if the exfoliation is likely to be tedious, in some cases it may be hastened by the use of a caustic or actual cautery, though in general the suppuration which contributes to throw off the diseased part is thereby retarded, or the rasp may be used; if, instead of the actual cautery, a potential one is preferred, the common caustic is the best.

In the worm-eaten *caries*, it is necessary to destroy all the affected part of the bones as soon as conveniently can be done, by rasping, trepanning, &c. according as each of them can be applied; after which the method is as above. When the ulcer is deep, let honey dissolved in vinegar and water be injected into it every day.

In the carious *caries*, the fungous and corrupted parts are best destroyed by a caustic; though Gooch, in his Cases and Remarks, vol. ii. p. 359, gives an instance of the inefficacy of caustics in this case, and of the necessity of using the actual cautery, which he in general prefers.

The phagedenic *caries*: one or two applications of the potential cautery are sufficient to reduce it to the most simple kind of *caries*; but sometimes great difficulties attend it.

The scrophulous *caries*: destroy fully the teguments which cover the abscesses formed on the bone with a caustic, cut the eschar through the middle to evacuate the matter; and to save the eschar as long as possible, let

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let mild applications only be laid on the sore ; and to assist the discharge of the matter, wash it with water ; but if it is foetid, mix vinegar with the water.

In general, a mild treatment is to be preferred. In the slighter cases, endeavour to excite a degree of inflammation in the adjoining sound part of the diseased bone, and continue so as that it may be the means of separating the mortified part. This is done by making a number of small perforations all over the surface of the *carious* bone, to such a depth as to give the patient very little pain, and no farther ; this operation may be renewed in different parts every third day, or thereabout ; thus suppuration will take place, and a consequent separation of the *carious* part. But when the disease is extensive, and goes deeper than the second lamella of the bone, instead of little perforations made by the pin which fixes the trepan, it will be adviseable to use a small head of a trepan ; this instrument applied at proper distances over the surface of the *caries*, and carried just so deep as to produce a little uneasiness, will produce the needful inflammation and suppuration. As soon as any of the parts loosen at the edges, their final separation may be always greatly hastened by daily insinuating below them the end of a common spatula, so as to press their edges a very little upwards. After the use of these instruments, apply to the ulcer the same dressings as in cases of a simple ulcer ; and, to moderate the foetor of the *caries*, the dressings may be covered with lint, moistened with a strong decoction of the cort. Peruv. & fol. jugland. The *caries* separated, dress, as in cases of simple ulcers in fleshy parts. If the *caries* penetrates very deep in the substance of a bone, so that a considerable portion of its whole substance is affected, or, as frequently happens, the disease extends even round the bone, the shortest method then is to take out at once, all the diseased parts, either with the head of a trepan frequently applied, or by means of a small spring saw. This may be

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be performed on the skull, hands, feet, legs, or arms. Vide article **TIBIA** for the process.

In the scirrho-cancrous *caries*, as in cancers of the glands, extirpation is the only remedy; but here also the disorder is apt to return in another part.

The spreading癌ous *caries* seldom heals: it may be dressed with lint, or a cautery may be applied; but it generally breaks out again after a seeming cure.

Some assert that sea-water is more efficacious in *caries* of the bones than in glandular swellings.

A *caries* of the whole bone or bones, forming a limb, is sometimes productive of the necessity of amputation; particularly when the internal surface of such bones are affected as well as the external, and that through the whole extent or near it. In such instances, if the whole bone is not removed by amputation, the patient will perish. It too often happens that in young subjects, with the best health, the whole habit will be so injured by the *carious* bone, that a hectic fever of the putrid kind, with all its horrid train of symptoms, will quickly destroy the patient.

See *Almeloveen's* edition of *Celsus de Morbis Offium*, p. 539. *Petit's* Diseases of the Bones. *Heister's* Surgery. *Le Dran's* Observations. *Wiseman's* Surgery. *Monro's* Account of the *Caries*, in the 5th vol. of the *Ed. Med. Essays*. *Bell's* Treatise on *Ulcers*, and his System of Surgery. *Pott's* Works, and *Lond. Med. Transact.* vol. iii. p. 25.

CARCUNCULA, a *Caruncle*, is a small piece of flesh, or an excrecence of a flesh-like appearance, as the *carcunculae lacrymales*. Morbid excrencences of flesh are also called *caruncles*, and small portions of a fleshy substance, which are sometimes discharged in a dysentery by stool, or in diseases of the urinary passages by urine.

Excrencences in the uretha arise from its corroded or excoriated sides, by sharp corroding matter passing through

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through and lodging there ; these are said to happen after the cure is completed, which makes them mistaken for the stone, or nephritic symptoms. A stricture in the uretha is generally, if not always, the case ; when these morbid *caruncles* are suspected, and a bougie passed a little above the obstruction, and kept in three or four hours, more or less, every day, cures it ; the signs are, when the urine is discharged it passes from the uretha, divided into two or more streams, sometimes only with pain, and in drops ; but the only certain sign is, to pass a probe, or bougie, up the uretha, until the obstruction is met with, and if any is found on this side the valve, at the entrance of the bladder, there is cause to suspect this disorder. *Vide Bell's Surgery*, vol. ii.

CASTRATIO, Castration. This operation is performed when the testicle is scirrous or cancerous. When the testicle suppurates, it is only treated as a common abscess. When the spermatic chord is diseased and thickened high up in the abdomen, it would be useless and even dangerous to perform the operation, unless you can remove all the diseased vas deferens. Sometimes the cellular substance about the chord is thickened from inflammation, and a fluid deposited in it, in this case the operation may be performed with safety. The mode of proceeding is this : place the patient in a horizontal posture upon a table of a convenient height, his legs hanging down, and firmly secured by assistants. The parts being previously shaved, grasp the swelling with one hand (or if it is too large, employ an assistant to secure it properly), and with a scalpel make a longitudinal incision through the integuments, from about an inch above where the chord is to be cut, down to the inferiour point of the scrotum. Now separate with your finger and thumb the spermatic artery and vein from the vas deferens (which is easily distinguished by its peculiar hardness) carry a firm, flat, waxed ligature round them, and secure them by running a knot about a quarter of an inch above that part of the

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chord which is to be divided. Cut the chord across at this part, and remove the testicle, by dissecting the chord and it from above downwards. The diseased parts being removed, untie the knot upon the chord to discover the spermatic artery and vein, and secure them, taking care to leave out the nerve, which may be separated by the tenaculum, but when it cannot, it must be included in the ligature.—For the dressing, Mr. Bell advises a quantity of soft lint, laid into the bottom of the sore, a compress of linen laid over it, and the whole secured with the T bandage, or suspensory bag. My practice has uniformly been to bring the lips of the wound together by the interrupted suture; cover it with a dressing of wax and oil, and secure it with the T bandage, or suspensory bag. The patient being put to bed, an opiate should be given, and every means to keep down inflammation must be employed.

When the skin of the scrotum is in a state of ulceration, or so distended as not likely to recover its tone, such part must be removed in the operation. But then, instead of a longitudinal incision along the course of the testicle, the first incision ought to commence at the under extremity of the spermatic chord; from whence two semilunar incisions ought to be continued to the under part of the scrotum, and made to include all the parts of the skin; that are in any degree diseased. The remainder of the operation is as already described. *Vide Sharpe's Operations. Le Dran's Operations and his 74th Obs. Heister's Surgery, and Bell's Surgery, vol. i.*

CATARACTA, *a Cataract*, from *καταράω*, to mingle together, or put out of order, is an opacity of the crystalline lens, or its capsule, occasioning a loss of sight, by the rays of light being prevented from passing to the retina. Dr. Cullen places it as a species of caligo, and names it *caligo (lentis) ob maculam opacam pone pupillam*.

When a cataract begins, the patient at first complains of a diminution of sight, and on a careful examination of the eye, a whiteness is perceived very deep in it. On examining the eye at distant periods of time, its opacity is more manifest, and the patient very sensibly loses the advantages of sight. The progress of a cataract, is usually very slow. No medicines seem adequate to the removal of this disease, except in an incipient state; success has sometimes attended repeated doses of calomel, and poultices of fresh hemlock on the eye, while a discharge was constantly kept up by blisters on the back. The hydrargyr. muriat. given internally for a length of time, has proved beneficial. When any degree of inflammation occurs, blood-letting, with a strict antiphlogistic regimen, is necessary. When these means fail in removing the opacity of the lens, the lens must be removed, either by pressing it from its natural situation in the centre, down to the bottom of the eye, which is termed *couching* the cataract; or by removing the lens entirely from the eye which is called *extraction*.

Mr. Sharp gives it as a general rule for proceeding to the operation, when the cataract is entirely opake; he observes, that sometimes they are of a proper consistence for the operation before they become so, but forbids proceeding thereto while the patients can perceive any thing through them. Cataracts are of different colours; the pearl coloured, and those that appear like burnished iron, are thought proper to endure the needle; the white are supposed milky; the green and yellow are horny, and incurable; the black cataract Mr. Sharpe takes to be the gutta serena.

The yellow cataract often adheres to the iris so as to be incurable. When a gutta serena attends, the operation will not relieve.

There is little to be expected from the opera-
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tion, when the diseased eye is either diminished, or increased, from its natural size.

Before and after the operation, a due regard must be had to the state of the patient's constitution; and such means are generally advised, as will keep it somewhat below its natural vigour.

When no objection to the operation attends, Mr. Sharp recommends the following method for depressing the *cataract*. "Place the patient in a convenient light, and a suitable height: put a pillow behind his back, that his body may bend forward, and the head approach near to you; then inclining the head a little backwards upon the breast of your assistant, and covering the other eye, so as to prevent its rolling, let the assistant lift up the superior eyelid, and yourself depress a little the inferior one: this done, strike the needle through the tunica conjunctiva, something less than one-tenth of an inch from the cornea, even with the middle of the pupil, into the posterior chamber, and gently endeavour to depress the *cataract* with the flat surface of it. If after it is dislodged it rises again, though not with much elasticity, it must again and again be pushed down. If it is membranous, after the discharge of the fluid, the pellicle must be more broke and depressed. If it is uniformly fluid, or exceedingly elastic, we must not continue to endanger a terrible inflammation, by a vain attempt to succeed,"

After the operation, treat it as an ophthalmia; and a collyrium, of one part rectified spirit of wine, and ten parts of luke warm water, will be as proper an application as any. When the operation of extraction is determined on, proceed as follows:

Pass your knife through the cornea, into the anterior chamber of the eye, about a line before the iris; for if it is not put there, the iris will, perhaps, be wounded: if you go too far on the cornea, you may get between its lamina, and so not perforate into

into the chamber, after puncturing into the chamber, guide your knife with the flat side perpendicular to the eye, through the aqueous humour horizontally (being careful not to wound the iris) and then thrust it out at the opposite side and situation of the cornea you put it in at; then turning its edge obliquely and perpendicular outwards, make an incision rather through the inferior half of the cornea, then lifting up the superior part of it, the crystalline humour will burst its aranea, and drop out; but if it should stick at its exit through the wound, it shows that the capsula of the crystalline is not broke, on which you must puncture it with the knife, and then it will drop: but if the disease is in the aranca, or the capsula of the crystalline, you must extract it also with the forceps.

Respecting the operation of couching, Mr. Pott observes that, as in some instances the *cataract* remains always fluid, so in others they become instantly indurated; whence it follows that there is no point of time for which we should wait, but at any time when on other accounts the object is a proper one, the surgeon may proceed. Previous to the operation, it is right to know the circumstances which render it likely or unlikely to succeed. To have it succeed, the crystalline humour should be opaque, and all the other parts of the eye capable of performing their functions; the eye should be of its natural size. When with a *cataract* the globe of the eye is manifestly enlarged, the patient is incapable of perceiving light, or distinguishing betwixt light and darkness; in such a case, the operation must be omitted. The pupil ought to be capable of contracting and dilating; it has been taught by many, that when the pupil is immoveable, it is to no purpose to perform the operation, which in a general sense is true, though not in a particular one; the operation certainly should not be performed, if the pupil is immoveable from a paralysis of the part, nor if it adheres to the crystalline, as in these cases we

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could not operate with any success, but if it is immoveable, or almost so, from a distension of the crystalline humour (which Mr. Pott thinks sometimes happens) you may operate; however, in these cases, on a very nice examination, the pupil will be found to have a very small degree of motion. The patient ought always to be able to distinguish light from darkness, and a white from a black body; if he is not, though you remove the *cataract* from over the pupil, yet the retina is incapable of performing its office. In the following instances, success is hardly to be expected by either couching or extracting the crystalline body: when the diseased crystalline is somewhat of the colour of brass, or of a bright yellow, or of a copper colour, the operation does not succeed; the pupil being generally found immoveable, and the whole eye enlarged. When all the parts of the eye are enlarged, or when the crystalline protrudes through the pupil, the case is not a proper one for the operation.

In extracting, Mr. Bell advises the division of the cornea at the upper part, in order to prevent the aqueous humour from being all discharged; but this method renders the approximation of the divided parts difficult. *Vide Celsus. Paulus. Aetius. St. Yves on the Disorders of the Eyes. Heister's Surgery. Sharpe's Operations. Med. Museum, vol. ii. p. 157. et seq. and 412. vol. iii. p. i. Warner and Pott on the Cataract. Bell's Surgery, vol. iii. Medical Obs. and Inq. vol. vi. p. 250. Sauvages's Nosologia Methodica, vol. ii. p. 723. Edin. Med. Comment. vol. v. p. 275, and White's Surgery, p. 236.*

CATHETERISMUS, the introduction of the catheter into the bladder. This appellation was given by P. *Ægineta* to this operation; and it is required in the following cases:

When a stone lies internally on the neck of the bladder, and stops the discharge of the urine.

When

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When a preternatural weakness of the bladder hinders the urine from being discharged in the usual manner; and when other remedies fail, as oft happens in women weakened with labour, &c.

When by too long retention of urine, the bladder is so distended and weakened as not to be able to discharge its contents.

When mucus, blood, pus, or other matter, sticks in the neck of the bladder, in cases of ulcers, or wounds of the kidneys, or after discharges of bloody urine.

When the urethra is contracted or obstructed, or the neck of the bladder (but in this case bougies are preferred) or when the prostatæ are scirrhouſ, or tumid, and prevent the passage of the urine.

In the last months of pregnancy, it is sometimes useful to introduce the *catheter*, to draw off the urine.

When a prolapsus uteri produces an ischury.

When a liquor is to be injected into the bladder, in which case, a bladder may be filled with the liquor to be injected, then fastened to the *catheter*, and so by gentle pressure conveyed through it.

The introduction of the *catheter* into the female bladder, is easily effected; but with the male subject, it requires considerable expertness. The best mode of proceeding is thus. The *catheter* being previously oiled, introduce it into the urethra, with its convex part uppermost, and carry it as far as it will pass without using force, then turn it SLOWLY round, so as to bring its concave side uppermost; and in doing this, make a large sweep with the handle of the instrument, and at the same time keep your attention steadily fixed on its apex, or inner termination, and be particularly careful neither to retract, nor move it from its first line of direction. When the *catheter* is turned, press it onward, at the same time gently depressing its handle. Sometimes there is an impediment at the caput gallinangiius, in which case, draw the *catheter* a little back,

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back, and press the end of it a little higher, but not with force. If the difficulty still continues, introduce a finger well oiled into the anus, drawing the perinæum forward, and with your finger assist the *catheter* in its introduction. Mr. Ware recommends the *catheter* to be about twelve inches long, with a larger curvator than common. I have always found the ordinary *catheter* to answer full as well. In the following cases, the *catheter* cannot be used with propriety or safety :

When the neck of the bladder is greatly inflamed, for then the urethra is much contracted, and to force in this case would endanger a sphacelus.

When a caruncle, cicatrix, or hard tubercle obstructs the passage.

In old men, sometimes from the stricture shrinking, or from wrinkles in the urethra.

From the distension of the spongy substance of the urethra with the blood.

From a scirrhosity or preternatural humour of the prostate gland.

A stone lodged in the neck of the bladder.

When the uterus is remarkably prominent and pendulous over the osa pubis, the neck of the bladder then forming an angle with the body of the bladder, hinders the passage of the *catheter*.

CEREBI COMPRESSIO, } *Compression of the Brain.*

COMPRESSUS, } This often arises from
external injuries. The symptoms are giddiness, dimness of sight, stupefaction, loss of voluntary motion, vomiting, an apoplectic stertor in breathing, convulsive tremors in different muscles, a dilated state of the pupil of the eye, even when exposed to a clear light; paralysis of different parts, especially of the side of the body opposite to that part of the head which has been injured; involuntary evacuation of the urine and fæces; an oppressed, and in many cases, an irregular pulse; and in cases of considerable violence

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violence done to the head, there is generally a discharge of blood from the nose, eyes, and ears. A slight blow on the head, will induce some of these symptoms, such as vertigo, stupefaction, and a temporary loss of sensibility, which commonly yield to rest, or some other gentle means. These are more probably the effect of a concussion given to the brain, than of compression. Vide article **CONCUSSIO**. Compression of the brain, is occasioned by whatever tends to diminish the cavity of the cranium, or increase its contents in any considerable degree; thus fractures, with a depression of any part of the bone, forcible introduction of any extraneous body, through both tables of the skull, the effusion of blood, serum, pus, or any other matter; the thickening of the bones of the head, from *lues venerea*; extravasations in the ventricles, or other parts of the brain, may produce this disease. For the mode of treatment, vide articles **CONCUSSIO**, **FRACTURA CRANII**, **DEPRESSIO**, **EXTRAVASATIO**, and **HYDROCEPHALUS**, likewise *Bell's Surgery*, vol. iii.

CERVIX, also *Coltum*, the neck, is subject to a contraction to one side, which is called **THE WRY NECK**. It may depend either upon original conformation; upon a preternatural degree of contraction in the muscles of one side of the neck, particularly of the sterno-mastoideus muscle; or merely a contraction of the skin, in consequence of extensive sores or burns. When it is productive of much deformity, it may be removed by an operation, except the vertebræ of the neck are distorted. The contraction is generally in the **SKIN ONLY**, but should it be in the sterno-mastoid muscle, it must be divided gradually by repeated strokes of the scalpel, carrying the incision to such a depth, as may be necessary to remove it effectually, or no advantage will be gained by the operation. When the skin only is affected, you proceed in the same way. After the operation, a firm support must be given to the head, to prevent the

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the divided parts from uniting too early. Vide *Bell's Surgery*, vol. iv. and *White's Surgery*, p. 387.

CHALAZIUM. It is a variety of *Sauvages* and other nosologists' *Hordeolum*, commonly termed the *Stye*, *Stian*, or *Stithe*. It originates in inflammation, and must be treated as a common boil, or abscess. The matter must be discharged by the point of a lancet, and afterwards a solution of the cerus-acetat, or lime-water, should be used. Some practitioners say, they should not be suppurated, but repelled by mercurials internally and externally, and in relaxed habits, the use of bark and steel is recommended. When these *stians* do not suppurate, they become wens; in which case they must be dissected out. Vide *St. Yves* on the Disorders of the Eyes. *Bell's Surgery*, vol. iii. and *Wallis's Nosal. Method. Oculor.*

CHANCRE, called also *Caroli*, a *venereal ulcer*. Its general seat is on the glans penis; on the prepuce, near its connection with the glans, about the frænum, sometimes on the very point of the glans, and often within the verge of the urethra. Frequently they appear over all the parts of generation, and on the region of the abdomen. They appear at first like a little erysipelatous inflammation, with itching; this is followed by one or more small pustules, filled with a transparent fluid, becoming sometimes white; these break, and a small but spreading ulcer is formed, sometimes painful, generally inflamed, sore and unequal at the bottom, often with hard protuberant ash-coloured edges, covered with whitish sloughs.

The surrounding callosity about the edges of these ulcers distinguishes them from all others.

The softest parts are most subject to this kind of ulcer: the more sensible the part on which it is seated is, and the more irregular the form of the ulcer, greater is the difficulty of curing it.

If a *chancre* is seated in the urethra, it may be mistaken for *gonorrhœa*, but may be distinguished by the smallness of the discharge, the pain during erection

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tion being in the extremity of the penis, or a particular spot in the urethra, but principally by examining with the touch of a probe or bougie, whether it is callous or not.

The lips of these ulcers never appear swollen or retorted, but contracted, smooth as if polished, and of a pale colour; the pus in them shines like melted tallow; there is little or no ropy lento, and is of a dirty white colour, sometimes inclining to green, and often tinged with blood. It sinks no farther than into the cellular membrane, which it destroys. And when these ulcers heal, the skin there adheres to the subjacent muscle, and forms a cavity of a livid red colour.

In order to the cure, the venereal infection (which is their only cause) must be destroyed. They may be dressed with the unguentum hydrargyr. fort. spread on lint, once in twenty-four hours, and thus they are sometimes easily removed. The internal use of mercury must never be omitted, even in the slightest chancre. When the ulcer is not much inflamed, sprinkle well with the hydrargyr. nitrat. ruber; or, what I have found extremely useful, distilled verdigrise, finely levigated, and a dressing of any common ointment; by these applications, but particularly the verdigrise, I have completely healed the ulcer within a week. In an incipient state, the lunar caustic freely applied, will remove it in a few days.

In WOMEN, these ulcers put on exactly the same appearance as in men, and occur chiefly on the internal parts of the labia pudendi, nymphæ, clitoris, the entrance of the vagina, and urethra, but seldom or never within either of these passages. *Vide Svediaur's Practical Observations on Venereal Complaints. Bell, Hunter, and Foot, on the Venereal Disease.*

CHEMOSIS, from *χαυω*, to gape, called also *Chymosis*. It is when from inflammation the white of the eyes swells above the black, so that there appears a sort of gap, whence the name.

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In Dr. Cullen's Nosology, it is a variety of that species of ophthalmmy, which he names the ophthalmia membranarum. It is when the inflammation is very great, causing the tunica conjunctiva so to thicken or project, that the cornea, or transparent part of the sclerotica, appears depressed and sunk in the globe. When the ophthalmmy is in this state, it is, for the most part, accompanied with violent pain. As some observe, in this state of the inflammation, the white part of the eye is become more like raw flesh; or as others, that it resembles the pile of red velvet. Mons. de St. Yves says, "in this species of ophthalmmy, all the conjunctiva is swelled to the thickness of a finger's breadth; this makes the transparent part of the cornea appear, as it were, sunk into a cavity. This inflammation is attended with great pain in the head and eye, with heaviness over the orbit, and with want of sleep; there is likewise a fever, pulsation, &c. All the transparent part of the cornea often comes away by suppuration, which destroys the anterior chamber of the eye. The cicatrix, subsequent to the suppuration, hinders the crystalline and vitreous humours from falling out, and by that means, the entire decay of the globe is prevented: sometimes both happen." This disease is often fatal; loss of sight always follows; and generally the pain which comes on, destroys the patient.

In order to relief, the violence of the disease requires the speediest and most powerful aids. Bleeding, according to the strength of the patient, after which a purge will be necessary; and these to be repeated as required. A blister may be applied on the forehead, or leeches to the temples, and after them a blister there, over the part where they were applied. Goulard's saturnine poultice may be applied cold over the eye-lids, and renewed as often as it grows warm. Antimonial perspiratives may be given inwardly, &c, as in general for inflammations of the eye.

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Vide *Sauvages's Nosolog.* *St. Yves* on the Disorders of the Eyes, and article **OPHTHALMIA**.

CHOLOSIS, a lameness from one leg being shorter than the other. It is often the case in children, that one leg seems longer than the other, and occasions a rotatory walk. It is a kind of paralysis of the part. In such cases, the glutæi muscles are much relaxed. The cold bath, with tonic medicines, and a seton, afford relief. Vide *Pott's Works*.

CHORDEE, so the French call, what others name, *corda*, *chorda*, *cordé*, and *chordé*, from $\chi\sigma\delta\eta$, the chord of a musical instrument. It is a painful involuntary erection of the penis, happening at all times in the day, but more particularly when the patient is warm in bed. The penis becomes hard, and painful to the touch, and is curved downwards, giving the sensation as if pulled with a chord. It sometimes remains after the heat of urine, and other symptoms of gonorrhœa are gone off; but is generally more severe during the inflammation. The cure is effected by bleeding and laxatives, and by applying a cold solution of acetated litharge, camphorated oil, æther, or a strong solution of opium, in water, to the part. Thirty or forty, or more drops of opium, taken at bed time, is extremely efficacious. Leeches applied to the part, are also highly useful. In several obstinate cases, I have directed the following injection, with the best effect:—

R. Ol. Amygdal. D. 3iv. Æruginis præparat. gr. x. misce; half an ounce was injected twice a day. Vide *Swediaur*, *Hunter*, *Bell*, and *Foot*, on the Venereal Disease.

CIRSOCELE, from $\kappa\iota\sigma\sigma\eta$, avarice, and $\kappa\iota\lambda\eta$, a tumour, it is also called *varicocele*. There is, however, this difference between the tumours. The varicocele is a varicous distention of the veins of the scrotum, forming a hard, knotty, unequal tumour. The *cirsocele* is of a nature like the varicocele, but the tumour is in the course of the sperma-

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tic chord, extending from the superior part of the scrotum, to the abdominal muscles, and is produced by a varicose distention of the spermatic vein.

Any large tumour in the abdomen, or external force pressing the veins, or a large tumour of the scrotum stretching the vessels, or impeding the return of the blood, may occasion the veins of the scrotum, or the spermatic veins, to be dilated with blood, and the testicles hang lower than in their natural state. But this disorder mostly depends on a relaxed state of the veins themselves.

Sometimes young men of a salacious turn, abounding with seminal matter, are subject to this disorder, mostly in the scrotum. However, when neither pain nor other troublesome symptoms attend, no regard need be paid to the case, except it be to apply to matrimony for the cure.

As this disorder is symptomatical, to remove the circumstances on which it depends, will be its cure. It sometimes depends on the pressure of an hernial truss upon the spermatic process; and then an alteration in the bandage will probably answer the purpose. If tumours of a scirrhouſ kind are the cause, and they are so situated as to admit of extirpation, let them be removed. However, when the veins have been long distended, so that their coats are become very weak, incisions may be made lengthways into them, after which dressing, as in a common wound, a cicatrix will be formed, and the return of the complaint prevented. Before incisions are made in the veins, it will be proper to try a suspensory bandage, the cold bath, the application of a solution of alum, or other astringents. Before opening the knot in these veins, it will be proper to try evacuants, lying in an horizontal posture, by which the course of the returning blood is facilitated; the scrotum and its contents should be supported by a proper bandage, and strengthening embrocations may be applied to the

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the part affected. Vide *Heister's Surgery*. *Bell's Surgery*, vol. i. *Pott's Works*, and *White's Surgery*, p. 334.

CONCUSSIO, *a concussion*, from *concutio*, *to shake*. *A jolt or shock of the brain*, by blows or falls. *A concussion* of the brain is a sudden and violent emotion thereof, and of the pia mater, occasioning a sudden distention of their blood vessels; and thereby depriving them of the power to propel their contents, or of maintaining the circulation as before.

It is often very difficult, when an accident, from external violence, happens to the inside of the head, to know of what kind it is, and where its seat; in such circumstances consider the symptoms; how the misfortune happened, with any other circumstance that may throw light on the case; sometimes the misfortune proves fatal only for want of knowing what part is injured.

The signs of a *concussion* do not always appear immediately after the injury is received. The symptoms attending a *concussion*, are generally in proportion to the degree of violence, which the brain itself has sustained; and which, indeed, is cognizable only by the symptoms. If the *concussion* be very great, all sense and power of motion are immediately abolished, and death follows soon: but, between this degree, and that slight confusion (or stunning, as it is called) which attends most violences done to the head, there are many stages. Sometimes a *concussion* produces the same kind of oppressive symptoms as an extravasation, and the patient is almost or totally bereft of sense; at other times, no such symptoms attend, but the patient gets no sleep at all, has a wild look, an eye much like that of a person who has long watched through apprehension and anxiety; talks much, and very inconsistently; has a hard labouring pulse, some small degree of fever, and sometimes an inclination to vomit; if not retained, the patient will get out of bed, and act with a kind of frantic absurdity, and

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appears, in general, much hurt by a strong light. Stunning is a slight degree of commotion, which soon goes off.

A violent blow on the head, not beating the head to the ground, nor against any hard body, most frequently causes a fracture or fissure, with but small *concussion*; when a blow is given with such violence as to knock the person down, and his head hits the ground, if the skull is not thereby broken, a *concussion* will be the consequence. If the head strikes against a hard immovable body, in consequence of a fall from a considerable height, a *concussion* with an extravasation usually follows, and generally death is the consequence. A *concussion* of the brain seldom is attended, if ever, with extravasation, unless when reaction follows the blow. A *concussion*, with a fracture, is less dangerous than one with a fissure, because in the first case the extravasation is less.

To distinguish betwixt a *concussion* and an extravasation of and in the brain, is sometimes extremely difficult, though in many instances very easy. The first stunning or deprivation of sense, whether total or partial, may be from either, and no man can tell from which; but when these first symptoms have been removed, or have spontaneously disappeared, if such patient is again oppressed with drowsiness or stupidity, or total or partial loss of sense, it then becomes most probable that the first complaints were from commotion, and that the latter are from extravasation. But when, after several days from the accident, at which time the symptoms were inconsiderable, or soon passed off, the watchfulness above noticed, &c. attends, the case is clearly a *concussion*. Vide article *Compressio Cerebri*.

In those who recover from a commotion of the brain, the office of some particular nerve or nerves is often deranged or destroyed; as a squint of one eye produced, which lasts for life; a distortion of the corner of the mouth; an incapacity of retaining the urine

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urine for a great length of time; and often a total loss of smell.

The case discovered, bleeding and antiphlogistics should be used, to prevent, if not remove, the inflammation; and if the injured part of the inside of the head cannot be discovered, the chief dependence is on bleeding, purging, and sweating.

Bleeding may be in the temporal artery, or in the jugular vein, though generally the arm suffices.

Except there is a depression of the skull, the trepan does not seem necessary. On this subject, authors and practitioners vary considerably.

The diet should be cooling and slender.

If great heat is perceived in the head, apply an embrocation of oil, vinegar, and sal ammoniac.

Mr. Schmucker, in his Chirurgical Observations, published at Berlin, suggests the idea of astringent applications as proper; and informs us, that he employed them with the greatest advantage. The following he seems to prefer. Rx Aq. pur. ℥b x. acet. acerim ℥i. sal nitri ʒiv. sal Ammon. crud. ʒij. m. with this embrocation he orders the part affected to be frequently well bathed; at the same time that blood-letting is prescribed, together with the internal use of nitre, stimulating injections and laxatives. In all the slighter affections of the head, the greatest success, he says, has been observed from such a course; and, even in such as have required the trepan, Mr. Schmucker thinks he has often seen it put in practice with advantage. In *concussions* of the brain, even without any external wound, cold epithems and fomentations, he says, are very serviceable, especially if conjoined with stimulating glysters, and the application of leeches to the temples. Mr. Schmucker farther observes in the same work, that violent *concussions* of the brain are often produced merely from the passage of cannon-balls near to the head, without any external affection being observable. In such cases, and in all similar *concussions*, emetics, he says,

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are commonly attended with the best effects; venæction, however, must always be premised to the use of these remedies.

Mr. Bromfield asserts the happiest success in these cases from the use of Dover's sweating powder; after bleeding, if required, he orders the bowels to be evacuated by means of a glyster, and then a scruple of Dover's powder, the operation of which must be encouraged by putting the patient between blankets, and repeating it every twelve or twenty-four hours, according as the violence of symptoms require. As it is chiefly from the attenuating property of the opium, that relief is expected, he uses such a proportion of the yin. antīm. mixed with tinct. opii. as will be needful to keep up a dia-phoresis when the violent symptoms are allayed, and until such a freedom from complaint, as needs no farther aid of the kind, is brought about: of this he gives ten or fifteen drops every four or six hours. As oft as the violent symptoms return, he has recourse to the powder: and such was his success, that in more than a hundred cases he succeeded; and in two which were attended with fractures of the skull, cures were thus effected without the use of the trephine. Mr. Justamond says, that the trepan is never required, and that the best we can do, is to leave the patient entirely at rest.

Vide *Bobnium*, in *Renunciatione Vulnerum de Vibratōne Cerebri*; *Berengarium de Commotione Cerebri*; Mons. *Bertrandi's Dis.* on the Concussion of the Brain, in the 3d vol. of the Mem. of the Royal Acad. of Surgery; *Wiseman's Surgery*, book v. ch. ix. obs. x. *Gooch's Cases and Remarks*, ed. 2. and *Eyomfield's Chirurgical Obs. and Cases*, vol. i. ch. i. *Deasē's Obs. on Wounds of the Head*. *Pott's Works*. *Fell's Surgery*, vol. iii. and *Schmucker's Chirurgical Observations*.

CONDYLOMA. Χονδύλος, a joint, or tubercle. It is a hard eminence, which arises in the folds of the

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anus, or a hardening or a swelling of the wrinkles there. These tumours often happen in the orifice of the uterus, and other parts.

It generally proceeds partly from a fault in the quality, and partly from a fault in the quantity of the fluids flowing there. At first, it is named a tubercle, but when hardened, a *condyloma*.

All tubercles and fungi, whether within the verge of the anus or more outward, are all of the same nature, and are cured by the same method, whether called *condyloma*, *ficus*, *fungus*, *crista*, or whatever else, and are tumours of the glandules of the part, which increasing, like a polypus of the nose, prove troublesome, being often painful. Those who are troubled with the piles have them very much. They often appear in the pudenda from the lues venerea.

If the roots are small, a ligature may extirpate them; if broad, they are best removed by a caustic, if care is taken not to injure any other part.

See P. *Ægineta*, *Celsus*, *Heister*, *Turner*, *Wifeman*, and *Bell's Surgery*, vol. ii.

CONTUSA, from *Contundo*, to knock together. *Contused wounds*, *contusions*, or *bruises*. When any part is bruised, one of these two are always consequent, and commonly both happen together; either the small blood-vessels of the *contused* part are broken, and the blood they contained is spread about in the adjoining parts, or else without such an effusion of it, these vessels have lost their tone, their active force, and no longer contributing to the circulation, their contents stagnate. In either of these cases, if nature, either with or without the assistance of art, does not remove the impediment, an inflammation comes on, followed by an imperfect unkindly suppuration, with putrefaction or gangrene. Beside which there are peculiar symptoms from the injury done to a nerve, a blood-vessel, or a bone.

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In general, the symptoms consequent on *bruises* may be reduced to three classes ; for,

1st, They arise either from this, that when the solids are destroyed, and the humours discharged, those functions are abolished which depend upon a due and determinate motion of the fluids through the sound vessels. Or,

2dly, That the discharged humours collected either in the natural or preternatural cavities of the body, by their bulk and quantity, press upon the adjacent parts, and either totally destroy, or, at least, disturb their respective functions.

3dly, The humours thus discharged, may, by their continuance and stagnation in their cavities, acquire such a degree of acrimony as to corrode and destroy the adjacent parts.

When the internal parts are *bruised*, and the external integuments are entire or confine the extravasated fluid, the consequence is, 1. An *echymosis* ; 2. A spurious aneurism ; 3. Ulcers and gangrenes ; 4. A caries ; 5. A *scirrhus*, or a cancer.

Concussions from gun-shot wounds are not so dangerous from the destruction of the injured vessels, and the consequences thereof, as from the general concussion that the whole body suffers from the air which is violently impelled against it ; and from this concussion it is, that most of the grievous symptoms proceed, which are consequent on wounds or bruises from fire-arms.

In no case should we be more cautious of pronouncing the event of any disaster than where a *concussion* or a *contusion* happens, and where both may have occurred, the caution, if possible, should be greater.

In order to the most effectual relief, remedies must be used that dissolve coagulated fluids, and that restore the tone of the vessels.

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For external use, where the skin is not much destroyed, a mixture of sharp vinegar, with twice its quantity of water, may be applied frequently by means of linen cloths wrung out of it, and as often as they dry moisten them again. Or the Aq. Calcis, with a portion of spirit, may be used with advantage. Spirituous applications should not be used, except where the sole intention is to strengthen the injured fibres; in slighter cases, a small quantity of spirit may be mixed with vinegar, and used on the first reception of the *bruise*.

If on account of a tumour or wound, a poultice is applied, the common bread poultice is the best.

If the *bruise* is considerable, and particularly if any internal part is affected, bleed as freely as the constitution will admit; direct a cooling liquid diet; let glysters be repeatedly injected, if the lower belly be the seat of complaint; and, in all cases, repeated gentle purging is of the greatest advantage.

The advantages of the tinct. opii externally, as a resolvent, of Dover's powder, and the anodyne antimonial drops, recommended in the article CONCUSSIO, which see, deserve the same attention when *contusions* happen, and on the same principles.

See *Bobinus de Renunciat. Vulner. Van Swieten's* Comments on Boerhaave's Aphorisms, *Tiffot's Advice to the People, Bilgieri's Dissertation on the Inutility of amputating Limbs, and Bell's Surgery*, vol. v.

CYSTOCELE, a hernia formed by the protusion of the urinary bladder. The situations in which it occurs, are either in the groin or scrotum, through the opening in the external oblique muscle of the abdomen; in the fore part of the thigh, under Poupart's ligament; or in the perinæum through some of the muscular interstices of that part. There have been instances of the bladder being pushed into the vagina. *Vide Mem. de l'Academ. Roy. de Chirug.*

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by Pipelet le Jeune, vol. iv. p. 181. When a cystocele is combined with a bubonocele, the protruded portion of the bladder lies between the hernial sac, and the spermatic chord. The symptoms of this species of herniæ are, a tumour attended with fluctuation either in the groin, in the fore part of the thigh or perinæum, which generally subsides on the urine being voided. Sometimes pressure is necessary to bring the water forward. But when there is no stricture, or the swelling is small, the urine is voided with great ease.

When this hernia is without complication, suppression of urine is generally the cause. In the treatment therefore, every cause of suppression must be guarded against; and if there is no adhesions, and the protruded bladder can be reduced, a truss should be worn for a considerable time. When the parts cannot be reduced, and no symptoms occur to render an operation necessary, a suspensory bag should be worn. When this hernia occurs in the vagina, reduce the parts by laying the patient on her back, elevating her loins, and pressing with the fingers from the vagina; after which, introduce a pessary to prevent future descents. When from inflammation and stricture, an operation is necessary, the parts must be divided, as in other cases of hernia. Vide Article BUBONOCELE. Recollect that in this hernia, there is no sack, and great caution is therefore necessary in laying the parts bare. Vide *Bell's Surgery*, vol. i.

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DEPRESSIO, *a depression*. This word in Surgery is, in general, applied to a sinking inwards of some part of the skull, in consequence of the bone being fractured from external violence. The symptoms arising from mechanical pressure, they are the same as in cases of extravasation. Vide Article **EXTRAVASATIO**, and **CEREBRI COMPRESSIO**. The symptoms in this case differ materially from those of a concussion. Vide Article **CONCUSSIO**. As the ill consequences attending and succeeding simple fractures, generally arise from depressed pieces of bone, their removal is the material object to be attended to. Vide article **TREPANATIO**.

DISLOCATIO, from *disloco*, or from *dis*, *vel* *dis*, *ex*, *out of*, and *locus*, *a place*, to put out of its place. Called also, **LUXATIO**, *a Dislocation or Luxation*, is when a bone, forming a joint, is displaced. A bone being forced entirely out of its socket is a complete dislocation; when it rests upon the edge of the socket, it is called an incomplete dislocation. Dislocations are also divided into simple, and compound. The bone being merely displaced is simple; but if attended with a wound or fracture, it is termed compound. The usual symptoms of a dislocation, are inability to move the injured limb; pain, tension, and deformity in the part affected, and in some cases subsultus tendinum and fever. The first swelling in dislocation, should be carefully distinguished from a secondary tumefaction, which often extends all over the limb. The former is red, tense, and painful, owing to inflammation; and the latter is pale, soft, and œdematosus, most probably, arising from a compression

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pression of the lymphatic vessels by the end of the displaced bone.

It is chiefly in the joints which possess much motion that we meet with luxations. Of these there are two varieties. The one, termed the junction by the ball and socket, where the head or end of the bone is received into the cavity of another, and the other termed ginglimus, or the hinge-like joint, from its resemblance to the hinge of a door. In this, the joint is formed by different parts of one bone being received into cavities or indentations of another. The former admits of the most extensive motion, as in the joint of the humerus, with the scapula, and of the femur, with the *osса innominata*; while the former only admits of flexion and extension, as in the joints of the elbow and knee.

The principal indications of cure are, to reduce the luxated part; and secondly, to retain it in its proper situation. But if inflammation, or tumour, are considerable, these should be removed by topical bleeding, saturnine applications, and placing the limb in a relaxed state, before a reduction is attempted. In reducing *luxations*, the muscles should all be put into a state of the greatest relaxation. Mr. Pott observes, that the assistance of the muscles are alone the cause of the difficulty of reducing *luxations*; that much force is never required, provided the muscles are relaxed by a proper position of the limb; and that in recent cases, at least, the capsular ligament will rarely, if ever impede. The extension should be gradual and continued, until the dislocated bone is on a level with the cavity from whence it receded, at which time, if the head does not return of itself, it must be assisted by pressing upon it, and making a lever of the dislocated bone. Dr. Hunter seems to think, that the contraction of the muscles is rarely an impediment to reduction, but the rupture in the capsular ligament; however, they both recommend

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commend a gentle extension, and to avoid every violent effort.

When a bone is fractured at a considerable distance from the luxated joint, the *luxation* may in general be immediately reduced, and the fracture treated in the usual way. Vide article **FRACTURA**. But when a bone is fractured, so near to the dislocation that it cannot be laid hold of, the case is difficult and uncertain. In the joints of the fingers and toes, the displaced bone may in some instances be pushed into its situation; but in the larger joints, as in the hip and shoulder, the fractured bones must be firmly healed, before the reduction of the dislocation is attempted. The treatment of dislocations with a wound, is the same as in compound fractures. Vide article **FRACTURA**.

Dislocation of the Bones of the Cranium. A separation of the bones of the cranium from the hydrocephalus, is by some called a *luxation* of the head. Whatever else be the cause, compression and bandage, if not by other circumstances forbid, are all that can be applied, besides the use of such means as are adapted to the disorder.

Dislocations of the Bones of the Nose. This dislocation is easily discovered by the touch, and the deformity it occasions. To reduce it, place the patient opposite the light, with an assistant behind to support his head, and endeavour to replace the bones. This in general may be done by the fingers; but when one of the bones is pushed inwards, a quill, or other like body, must be introduced into the nostril to raise the depressed piece. After the reduction, apply a double headed roller to retain the bone in its situation.

Dislocations of the Lower Jaw. This bone can only be dislocated forward and downward. If only one side is luxated, the chin inclines to the opposite side, and on the dislocated side the mouth is wider open.

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When both sides are dislocated, the chin is thrown forward and downward, and the mouth is open. In order to reduce it, place the patient firmly in a low chair, and let an assistant support his head; then wrapping the end of a handkerchief, or putting a case of thin iron covered with thin leather on your thumbs, to defend them from being bit, push them as far as they will go, between the teeth of the upper and under jaws, the under or flat part of the thumbs being applied to the teeth of the under jaw: the palm of each hand should be applied to the outside; while with your fingers you lay a firm hold of the angles of each jaw. With your fingers thus applied, pull the under jaw forward, till it moves somewhat from its situation, then press the jaw forcibly down with your thumbs, and moderately backwards with the palm of your hand. Whether the jaw is luxated on one or both sides, this treatment answers; only when the dislocation is on one side, the depressing force must be chiefly applied to that side.

Dislocation of the Head. When the head is dislocated, the head falls forward upon the breast, the patient is instantly deprived of sensibility, and lies as if he were dead. If he is not quickly relieved, death follows. To reduce it, seat the patient on the ground, with an assistant to support him. Then standing behind, raise the head from the breast, let the assistant press down the shoulders, and gradually pull the head straight up, till the dislocation is reduced; or if this does not happen with moderate extension, it may at the same time be gently moved from side to side. A sudden crack or noise is heard on the reduction being completed; and if the patient be not entirely dead, it is immediately ascertained, by a partial, or perhaps entire recovery of all his faculties. The head, after being reduced, must be kept elevated, and retained in one posture by a bandage, for a considerable time.

Dislocation of the Spine, Os Sacrum, and Os Coccygis.

Complete

Complete dislocations of the vertebræ, perhaps, have never occurred, even with a fracture, without almost instant death. In cases of partial dislocations, the patients have lived some time, and in some instances a complete cure has been obtained. These dislocations are distinguished, by the body being distorted, by examination with the fingers, and such symptoms as arise, from a compression of the spinal marrow, particularly a paralysis of that part of the body below the injured part, and either a total suppression of urine, or an involuntary passing of both fæces and urine. The vertebræ are usually forced directly forward, or in some degree to the right or left side. When they are luxated forward, the body must be gradually and slowly bent over a cask, or any other round body of sufficient size: If the bone is replaced, raise the body immediately, if not, the same process must be repeated. This treatment has sometimes succeeded.

If the dislocated bone inclines to the right or left, the body, in attempting its reduction, must not only be bent forward, but somewhat towards the affected side.

Os Sacrum. When this is dislocated, the body must be bent forward, in the way already mentioned, and endeavour to replace it by external pressure.

Os Coccygis, may be forced internally by a blow, and externally by laborious parturition. In either case, a violent pain is felt over the region of the loins, particularly about the junction of this bone with the os sacrum. When the luxation is inward, with the pain, there is a sensation of a tumour, or some other hard body, compressing the under part of the rectum: there is sometimes a tenesmus, difficulty in passing the fæces, and in some cases there has been a suppression of urine. On introducing the finger at the anus, the displaced portion of bone is discovered.

If the luxation is outward, it may be replaced by pressure with the thumb; if inward, dip the fore-finger in oil, introduce it as high as possible up the anus,

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and push it outward, whilst the other fingers, applied externally, guide it to a proper place.

The T bandage is proper here.

To prevent inflammation, bleeding, with low diet, must be directed; local bleeding by leeches, is, perhaps, the most useful. Let the patient observe that posture in which he is most easy.

Dislocation of the Clavicles. This may happen at either extremity of these bones, but is more frequent at their junction with the sternum, than at the acromion. A considerable degree of stiffness and immobility in the corresponding joint of the shoulder, commonly attends this dislocation. To reduce it, the same general methods must be employed as in case of fracture of this bone, except, *raising the arm*, as it tends to push the bone further out of its place. The reduction effected, the weight of the fore arm must be supported. The head and shoulders must likewise be supported, and a moderate pressure by bolsters must be made upon the end of the displaced bone. For these purposes the long roller, applied so as to form the figure of 8 upon the shoulders and upper part of the breast, is employed. Mr. Bell, however, recommends a machine. Vide his *Surgery*, vol. vi. pl. lxxxviii. fig. 1.

Dislocations of the Ribs. The ribs may be dislocated inwards. The symptoms are nearly the same as those induced by fractures. But a dislocation is distinguishable from a fracture, by the pain being most severe at the articulation, and by no part of the bone yielding, excepting at this very spot. If the rib is not reduced by the cause which produced the *luxation* being removed, the best method of reducing it, will be to bend the body forward over a cask, or other cylindrical body, while the vertebræ immediately above and below, are pressed inward with as much force, as can with safety be applied to them. After this, lay a thick compress of linen over the vertebræ already mentioned; and another long one along the most prominent

minent part of the dislocated rib, and the two immediately contiguous; then pass a long broad roller two or three times round the body, with such a degree of pressure upon the vertebræ, as will retain them in their situation. In applying the roller, let it not be so tight as to impede respiration. Bleeding, low diet, and perfect rest, must be directed. *Vide Petit's Diseases of the Bones. Gooch's Cases and Remarks. Pott's General Remarks on Fractures and Dislocations. Kirkland's Obs. on Pott's Remarks. Bell's Surgery, vol. 17. and White's Surgery.*

Dislocations of the Humerus at the Joint of the Shoulder. The head of this bone may slip out before, behind (even under the scapula) or downward; but never upwards, except the acromion and coracoid process are fractured.

When the humerus is luxated downwards, there is a cavity in the upper part of it, perceptible to the eye in some instances, but to the finger in all, and a tumour in the arm-pit, because the head of the bone is lodged there; the luxated arm is longer than the other, and when it can be moved or extended, it gives exquisite pain in lifting it up to the mouth.

Fresh luxations are most easily reduced; those of long standing are restored with difficulty; but if the head of the humerus grows to the adjacent parts, a reduction cannot be effected by any means.

To perform the reduction, bend the fore-arm, and let an assistant support it; then elevate the arm so that the elbow may be advanced somewhat above the shoulder, bringing it a little inward; then an assistant properly makes the extension, whilst another, counteracting him, draws the inferior angle of the scapula backward toward the spine, and presses the acromion downwards; the operator, with his fingers in the axilla, presses the head of the bone upward as soon as he perceives the extension to be sufficiently

made, and at the same time, with his other hand, brings the elbow of the luxated arm to the patient's side. An extension made downwards, or even horizontally, more frequently fails than when it is made in some degree upward.

When the *luxation* is forward; that is, when the head of the humerus is under the pectoral muscle, there is a cavity under the acromion, but the head of the luxated bone projects towards the breast, more than when just in the axilla; and if the arm is moved, a more acute pain is felt than in the preceding case; for the great artery and the arms of the nerves are much pressed. If this kind of *luxation* is not easily reduced by the method directed, when the head of the humerus is in the arm-pit, let a pully from the top of a room be fastened to the arm, just above the elbow of the luxated arm, and the patient gradually raised from the ground by it; this at least brings the head of the humerus into the axilla, whence, as above directed, it may be restored into its proper place. In this process, remember to let the fore-arm be brought toward the breast, that the muscles may be relaxed.

If the *luxation* is backward, the cubit approaches the præcordia, and the head of the bone is prominent on the outside of the shoulder; the arm cannot be moved from the breast, nor extended without great agony, and the lower angle of the scapula will be somewhat pushed out. In this case, the general procedure may be the same as when the head of the humerus is under the pectoral muscle.

In want of a pully, a tall strong man may take the patient's arm over his shoulder, and gently raise him from the ground, and the operator may push the head of the dislocated bone into its place as the body becomes suspended. This method of suspending the patient is not so severe as it may seem; for as no force is used about the shoulder to make a counter extension,

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extension, the patient does not suffer from those troublesome excoriations and contusions, which too commonly attend the other methods.

As to the use of machines for reducing a luxated humerus, it is generally allowed they are never needful. Freke's commander is preferred to all the rest of the instruments used for this purpose; in the use of it, the limb may be moved in all directions during the extension, and the situation of the head of the bone can be examined; but great care is required to keep it perpendicular to the side of the patient.

As in other *luxations*, bleeding, &c. to prevent or check inflammation and swelling, must be used after the reduction, and the arm suspended in a sling.

Dislocation of the Fore-arm at the Joint of the Elbow. A perfect dislocation seldom happens here, except the olecranon is fractured, or the ligament greatly weakened. This *luxation* may be backward (which is most frequent) forward, outward, or inward. If the *luxation* is backward, the arm appears crooked and shorter, and cannot be extended; in the internal part of the flexure, the humerus will be prominent; in the external, the olecranon, with a large cavity between both bones. When, by reason of the fracture of the olecranon, the cubit is pushed forward, the os humeri will stick out behind, the ulna is prominent on the forepart, and a hollow appears in proportion to the *luxation*. If the *luxation* is external, the tumour is so too, and *vice versa*.

In a violent *luxation*, or one of long standing, the bone, cannot be replaced without great difficulty, by reason of the strong ligaments and various processes.

If the ligaments and tendons are rigid, let emollient applications be used some time before the reduction is attempted.

Reduce this *luxation*, by making an extension until the fore-arm can be put into a state of flexion, and then the rest is easily accomplished by bearing upon the lower

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end of the humerus with one hand, and by taking hold of the wrist and bending the elbow with the other; and if it is on either side, the hand of the patient must be turned inward or outward, at the same instant, as the case requires. After reduction, the arm should be hung in a sling for some time, that the parts may recover their tone.

The bones of the fore-arm are also liable to be dislocated in their connection with each other. At the joint of the elbow, a projecting part of the radius is lodged, and moves in a corresponding cavity of the ulna, and below, a portion of the ulna is received by a similar cavity in the radius. Instances have occurred of these bones being separated from each other at both these points of connection; but it is more apt to happen at the wrist than at the elbow. When it occurs, the usual symptoms of dislocation are present; pain, swelling, distortion, and impaired motion. The bone is easily replaced, but difficult to retain; therefore, when the bone is reduced, a splint, to reach from the elbow to the tops of the fingers, should be placed on the inside and outside of the arm; secure them by a flannel roller, and let the arm hang in a sling.

Dislocations of the Bones of the Wrist. Dislocations of these bones are not very frequent; but when they occur, they are most generally outward. The three superior carpal bones may be displaced at their connection with the ulna and radius, or they may be separated from the five inferior bones of the wrist. Sometimes, one or more of these bones are separated from each other; and in some instances, they are dislocated at their connection with the bones of the metacarpus, and the superior bone of the thumb. To reduce these bones, let the arm and hand be supported by two assistants, who must keep the parts firm, but not stretch them, and in this situation, the bones are easily pushed into their places. Retain them

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by splints and bandages, as directed in article, *Dislocation of the fore-arm, at the joint of the elbow.*

Dislocations of the Bones of the Metacarpus and Fingers. This is when the under extremities of the metacarpal bones are displaced at their connection with the bones of the fingers. The bones of the fingers and thumb are also sometimes luxated, but not often. The usual symptoms of dislocation take place here. When any of the metacarpal bones are displaced at their connection with the bones, they must be reduced by keeping the arm steadily fixed, and pushing them from above downward, while the hand remains loose and moveable. When the first phalanx of any of the fingers is moved from its junction with the corresponding metacarpal bone, let one assistant fix the hand, while another draws down the dislocated finger, which must be done by grasping the first phalanx only, in order to prevent the other joints of the finger from being hurt. The other joints of the fingers and thumbs, must be managed in the same way. Before extension is made to reduce these dislocations, elevate the displaced bone above the contiguous one.

Dislocations of the Femur, at the Hip-joint. A fracture of the neck of this bone, is sometimes mistaken for a luxation. The head of the thigh bone may be luxated downwards, forwards, inwards, outwards, and backwards. This luxation, like that of the humerus, is always perfect, and most frequently happens inwards and downwards, the head of the bone tending towards the large foramen of the os pubis.

When the luxation is outwards, the bone generally slips upwards at the same time: if inwards and downwards, the leg is longer, and more bowed than the other, and the knee and foot turn outwards: the head of the bone is thrust near the lower part of the inguen, and the foramen of the os pubis; sometimes the compression of a nerve, which communicates with

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with the bladder, causes a suppression of urine, and the pressure on the crural nerve, a numbness in the leg; a sinus is perceived in the buttock, because of the great trochanter, and the rest of the bone; and if the reduction is long neglected, the limb withers; if the patient should not require a crutch, he will at least halt; the knee of the luxated limb cannot be brought to the other; the chief pain is perceived in the groin, and no grating can be perceived, as happens when the bone is fractured, and the limb moved. If the *luxation* is backwards, the limb is drawn upwards, whence a cavity is perceived in the groin, and a tumour in that part of the buttock where the head of the bone and the trochanter are lodged; the limb is shortened, the foot bends inward, the heel does not touch the ground, but the patient seems to stand on his toes, and the luxated limb is more easily inflected than extended; in this case, many stand and walk firmly, without the bone being reduced, provided they have a high heel to their shoe.

A fractured neck of the thigh-bone is distinguished from a *luxation* of its head; first, when the thigh-bone is luxated by a flux of humours, without any external violence, but only by walking or rising up: secondly, when it is unattended with pain, tumour, or inflammation: thirdly, when the whole limb may be bent, and turned about the acetabulum without any noise, which is usually heard in fractures: the contrary signs indicate a fracture.

In reducing the luxated head of the thigh-bone, a longitudinal extension will not suffice, but it must be according to the direction of the cervix. Mr. Kirkland says, "When a thigh is dislocated inward, or outward, follow Celsus's advice in laying the patient on one side, so that the part into which the bone has slipped, be always uppermost, and that from which it has receded, lowermost; by which means the extension may be made in any direction you please, and

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and your own invention will point out to you twenty ways of securing the patient upon a bed (for a table is usually too high) so that a proper resistance be made to the extension. This done, the knee bent, and a towel fixed properly above it, you must place yourself on that side of the thigh to which the bone is dislocated, with your knee near the head of the bone, and both hands on the opposite side of the knee of the patient, an assistant being fixed at the ankle. The extension may then gradually be begun by three or four men, with the thigh rather in a state of flexion; and when there is reason to think that the head of the bone is brought to a level with the socket, the extension being steadily continued, the knee may be bent near to the abdomen, and, at the same time, whilst the knee pushes the bone towards its place, the ankle must be moved in the same, but the knee of the patient in a contrary direction. Thus the head will always go into the socket, provided a due extension is made before you attempt to return it."

Sometimes the head of the thigh bone is pushed between the ischium and sacrum; in this case, except the patient is very lean, before attempting the reduction, it may, perhaps, be most eligible to reduce the patient's flesh by repeated brisk purges, given at short intervals; for thus the state of the case is better discovered, and the reduction more easily effected.

Dislocations of the Patella. The patella may be partially or completely luxated, and it may be displaced either upward or downward, outward or inward, it may also be luxated by itself, or displaced with the tibia and fibula, when those bones are dislocated. A complete luxation cannot take place in any direction, without a rupture of the ligament, which ties it to the tibia, or of the tendon of the rectus muscle, connected to the upper part of it, or perhaps of both. The reduction is effected by placing the patient on a bed or table, and stretching out

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his leg, which an assistant must keep in that posture ; then endeavour to push the bone into its situation, raising it first a little, by pressing down the side of the bone most distant from the joint ; then a very moderate force will press it into its place. When the patella is displaced, by the tibia and fibula being luxated, it cannot be replaced till those bones are reduced.

Dislocation of the Tibia and Fibula at the Joint of the Knee. The tibia is the only bone of the leg immediately concerned in the joint of the knee. It cannot be dislocated without drawing the fibula with it. From the great strength of the knee joint, it cannot be completely luxated, but by such force as must rupture the teguments, ligaments, and tendons which connect the bones. These bones, therefore, are seldom forced entirely past each other, and from the same cause, a partial luxation seldom happens. However, a complete, or partial dislocation may take place on either side, though the bones are more readily forced backward than forward. The most partial dislocation occasions considerable pain, lameness, and deformity, which is very evident on comparing both knee joints. If the patella is dislocated with the tibia and fibula, it will generally be reduced with these bones, but when not, it must be replaced as directed in Article *Dislocation of the Patella*.

To reduce the dislocation of this joint, fix the thigh firmly, and extend the leg till the ends of the bones are entirely clear of each other ; the tibia and fibula connected with it are then easily replaced. While the force for extension is applied, the muscles of the leg should be relaxed as much as possible. When the reduction is effected, inflammation must be guarded against by repeated bleedings, &c.

The under extremity of the fibula is sometimes separated, and puts on the appearance of the muscles being sprained ; an attentive manual examination will discover the

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the displaced bone; it is easily replaced; and a bandage should be worn till the parts recover their tone.

Dislocation of the Foot, at the Joint of the Ankle. Dr. Hunter observes, that when there is a *luxation* of the malleolus *internus*, there is generally a fracture of the fibula; but that if the person is of a lax habit, the ligaments may be relaxed without a fracture.

If the ankle is luxated inwardly, the bottom of the foot turns outward; if it is luxated outwardly, the bottom of the foot turns inward; if forward, the heel becomes shorter, and the foot longer than usual; if backward, the heel seems lengthened, and the foot shortened. This kind of luxation is usually attended with violent pain, and often with other very violent symptoms; and the difficulty of reducing the ankle is proportioned to the violence of the cause. Place the patient on a table or bed; and the leg, with the knee bent, must be secured by an assistant or two. Then place the foot in a position to relax the muscles, and give it to an assistant, who must extend it in that direction, till the prominent point of the astragalus, clearly passes the end of the tibia, when the bone will slip into its place, or may be easily forced in. This done, the patient must be kept in bed, until he can in some degree rest upon his ankle.

Dislocations of the Os Calcis, and other Bones of the Foot. The *os calcis* is sometimes dislocated laterally, where it is connected with the astragalus. The astragalus and *os calcis*, are sometimes luxated at their junction with the *os naviculare*, and *os cuboides*. This has been mistaken for a dislocation of the ankle. The foot, in this case, may be pushed either outward or inward, or forced directly downward. When the *os calcis* is displaced, it can only be reduced by fixing the leg and foot so as to completely relax the muscles, and then endeavouring to force the bone into its situation; in doing which, great assistance is derived from moderately extending the foot.

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In dislocations of the astragulus and os calcis, with the os naviculare, and os cuboides, as the anterior part of the foot is generally drawn towards the heel, such extension must be made, as will clear the bones on the opposite sides of the joint of each other. The bones will then immediately slip into their situation.

The other bones of the tarsus, and those of the metatarsus, may be luxated in every direction. The treatment is, as in dislocations of the bones of the hand. Vide article *Dislocations of the Metacarpus, and Fingers.*

DISTORSIO, *Distortion.* The bending of a bone **DISTORTIO,** *preternaturally to one side.* It is sometimes applied to the eyes, when a person seems to turn them from the object he would look at, which is called *squinting.*

LIMBS, may be distorted various ways, and by different causes; either from a morbid state of the bones, or from a contracted state of the muscles, or the bones and muscles may be both affected. In some cases, the distortion is owing to an original mal-conformation; in others, it occurs in infancy, and in some at a more advanced period of life.

Where the limb is distorted from a contracted state of the muscles and tendons which belong to it (and this is the most frequent cause) a free use of emollients, with a moderate gradual extension, Mr. Bell says, is the remedy from which he has derived most advantage. The emollient applications must be used very amply, they must be rubbed on all the contracted tendons and muscles, from their origins to their insertions, for half an hour or more, three or four times a-day, and the limb must be constantly covered with a flannel well soaked in the application. While the friction is employed, the limb must be slowly extended to as great a degree as the patient can easily bear. Mr. Bell also recommends an instrument to be applied afterwards, to prevent the muscles from contracting

tracting; but perhaps this is not necessary. For the form of this instrument, vide his System of Surgery, vol. vi. pl. lxxix. fig. i. The best kind of emollients, are animal fats, in preference to vegetable oils.

When the distortion of a limb proceeds from a bone being bent; if it is not of long duration, and especially in childhood, constant pressure, gradually increased, on the convex side of the limb, will often remove it. This distortion is most frequently in the legs, and affects the direction of the feet and ankles. If the bones of the leg are bent outward, the foot is turned inward, and *vice versa*, the foot is turned outward, when the leg is bent inward. Writers have denominated persons affected in this last way *valgi*; and *vari* when the feet are turned inward.

The best method of applying the pressure, is by fixing a firm splint of iron in the shoe, on the concave side of the leg. The splint should rest against the corresponding condyle of the femur, and the other end of it upon the foot; by this mode, with one or two broad straps passed round both the leg and the splint, an easy pressure is also made on the opposite side of the leg. The pressure may be increased, by drawing the straps tighter from time to time. Vide *Bell's Surgery*, vol. vi.

Distortions of the Spine. The spine may be distorted outwardly, inwardly, and laterally. In some cases, we meet with it in all these directions at the same time, and in the same person. This sometimes arises from external violence, but it is more frequently a symptom of a weakly, delicate constitution. In these cases, independant of the deformity, the health is sometimes injured, by the abdominal and thoracic viscera being compressed. They may occur in all ages, but more frequently about puberty, and oftener in girls than boys. The effects they produce are observed before the cause is suspected; for there is seldom much pain in the part immediately affected.

When distortion in the spine occurs in infancy, the patient

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patient appears to be suddenly deprived of the use of his limbs; but at more advanced periods, he complains for some time of feebleness and languor, and of numbness or want of feeling in the under extremities. This want of sensibility gradually increases; he stumbles, drags his legs, and cannot stand erect but with difficulty. At length, he entirely loses the use of his legs; they become paralytic, and if the distortion is forward, so as to compress the thoracic or abdominal viscera, he is distressed with dyspnoea, or with complaints in the stomach or bowels, according to the part of the spine affected.

Sometimes there is a loss of power soon after the first approach of the disease; it sometimes becomes gradually less remarkable, but is seldom totally removed.

On discovering the deformity, we frequently find only one of the vertebræ displaced. On other occasions, two or more are affected; and in some cases, there is probably only a thickening of the ligaments, connecting the vertebræ without any affection of the bones.

In distortions arising from a weakly habit, the patient should be cautioned against indulging in particular postures. The body should lie on an equal surface during sleep, to which a hair matress, laid on boards, should be used. This treatment, with generous diet, cold bath, and tonic medicines, has checked the progress of this disease.

When the bones are affected, Mr. Pott advises an issue to be opened with a caustic on each side the tumour, large enough to admit a kidney bean, and the bottom of the sore to be sprinkled from time to time with powder of cantharides.

In every case of distortion, the head and shoulders must be supported, by the collar usually employed for this purpose. *Vide Pott's Works.* *Jones's Essay on Crookedness.* Dr. John Jebb's Select Cases of the Disorder, commonly called the Paralysis of the Lower Extremities

Extremities. *Bell's Surgery*, vol. vi. and *Lond. Med. Journal*, vol. vi. p. 358.

DYSURIA, *Dysury*, from *δυσ*, *painfu'*, and *υρη*, *urine*; a *difficulty of voiding the urine*. A total suppression of urine is called **ISCHURIA**, which see. A partial suppression is called *dysuria*, and may be with or without heat. When there are frequent painful or uneasy urgings to discharge the urine, and it passes off only by drops, or in very small quantities, it is called a **strangury**. When a sense of pain or heat attends the discharge of urine, it then passes with difficulty, and is distinguished by the name of **heat of urine**.

The causes are various: as caruncles in the urethra; a stone in the neck of the bladder, or in the urethra; spasm, or inflammation in the neck of the bladder, or urethra; acrimony in the urine, abrading the mucus from the bladder, or the urethra: the venereal disease, and the scurvy, often produce this disorder; an ulcer in these parts, and a defect in the discharge of mucus for lubricating the urinary passages. The chronic *dysury* has generally for its cause a rheumatic, arthritic, scorbutic, or other morbid humour, fixing itself in the villous coat of the bladder, near its neck, and in the urethra.

The diagnostic signs of a *dysury* sometimes so much resemble those of a stone in the bladder, that some difficulty attends the distinguishing of them, especially when the *dysury* is of the chronic kind. However, in general, the difficulty of discharging urine is unattended with pain or heat, except during the endeavours to void it, or its actual passing off, and for a short time, the pain perceived afterwards is in the glans, a circumstance not so particularly attendant in the stone; in the chronic *dysury*, bloody urine is more frequently caused by exercise, and is voided in large quantities after vigorous motions, than happens in the stone.

Heat of urine is not from an increase of its

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natural heat, but from its coming in contact with the inner coat of the bladder, or of the urethra; its acrimony abrades the mucus from these parts, or their mucus is too sparingly supplied, whence the acrimony of the urine irritates them too much, and excites the sense of heat and pain. And if the heat of urine proceeds from acrimony in the urine, it will be known by the high colour and thinness of the urine, or else a mixture of unusual matter.

The different kinds of *dysuries* should be distinguished from each other; and they from the stone in the bladder, or urethra, from the ischuria, and from the piles.

The *dysury* is not a dangerous disorder, but it is both troublesome and difficult to cure, particularly in the aged. Whenever it happens, if it continues long, it ulcerates the bladder and its neck.

In order to the cure, the particular cause must be discovered.

When the application of blisters cause a strangury, wash the blistered part with warm milk and water when dressed.

When an acrimony in the juices are the cause, if it is venereal, give anti-venereals; if scorbutic, give anti-scorbutics, &c. If the pulse admit of it, bleed; give lenient cooling laxatives, such as cassia, tamarinds, the ol. ricini. or draughts of oil and manna. It is usual to give nitre, but a solution of true gum arabic is by far more useful; an ounce of it should be taken in a day. Camphor, and small doses of laudanum, are often of great service. Spt. æth. nitri. may be taken in each draught of common drink, or the following draught and glyster may occasionally be administered.

R Tinct. Opii gr. xx. spt. æth. nitr. gr. xxx. ol. amygd D. 3 ij. aq. font. 3 ijs. m. f. haust.

R Bals. Peruv. 3 ijs. in vitel. ovi solut. Tinct. Opii. 3 j. and 3 ij. ol. oliv. 3 ij. decoct. per enem at 3 viij. m. f. enem. A semicupium is often of use.

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The patient should drink plentifully of a solution of gum arabic, or falop, of whey, or of a decoction of marsh-mallow root.

When the pain is violent, let the mucilage of gum arabic, or some oily matter, be injected into the urethra before discharging the urine.

If there are caruncles in the urethra, bougies should be carefully introduced, and repeated as required.

In the chronic *dysury*, after other means fail, a salivation, excited by the use of mercury, has succeeded; and an issue in the inside of one thigh, a little above the knee, prevents the return, or at least renders relapses very easy. When the patient is too weakly to admit of salivation, a dose of the *uva ursi* may be taken every morning, and after it half a pint of lime-water, mixed with a strong decoction of the great water dock root.

Dr. Percival observes, that there is a species of chronic *dysury*, to which persons of an arthritic or scorbutic habit, and who have passed the meridian of life, are peculiarly incident. It is often mistaken for the stone, and aggravated by the use of lithontriptics. He adds, that it has many symptoms in common with that disorder, such as frequent and urgent calls to make water; pain at each extremity of the urethra; a mucous discharge, tenesmus, and sometimes a suppression of urine. But the patients who labour under it, feel no uneasy weight in the perinæum, and always void their water with much less difficulty in an erect, than in an horizontal posture. The complaint, also, may be further distinguished from the stone, by having shorter intervals of ease; by more frequently injuring the retentive power of the bladder, and by occasioning no sudden interruption to the stream of urine in the absence of pain. It seems to arise from an acrid defluxion on the coat of the bladder, which is thereby rendered so exquisitely sensible, that the stimulus of the urine becomes almost intolerable, and

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very frequent efforts are excited to expel it; these efforts, however, should be restrained as much as possible, because they tend to increase the pain and irritation of the bladder, and to prevent the complete discharge of its contents; for that organ cannot effectually contract itself, without a due degree of previous distension. Of all the remedies which Dr. Percival tried, he says, that mercury was the most successful; it seldom failed to afford relief, and generally produced a cure, if administered with perseverance, and in sufficient quantity. According to the urgency of the case, one, two, or three scruples of the ungt. hydrargyr fort. should be rubbed into the thighs every night, till a slight ptyalism ensues: the symptoms for the most part abate before the spitting comes on, and after it has continued a while, they disappear entirely. Sometimes, in slighter cases, the doctor gives half a grain of calomel, with two grains of James's fever powder, twice every day; and this small dose of mercury, if duly continued, may suffice to effect a cure, without producing any salivation, or even soreness of the mouth. See Lond. Med. Journ. vol. iv. p. 69.

Violent heat in the urinary passages of women, have been cured by the use of the bark.

Consult the authors mentioned under the article *Ischuria*. *Biss's Essays*. *Lobb on painful Distempers*. *Gooch's Cases and Remarks*, vol. ii.

E.

ECCYMOSES, } From *εκχυω*, to pour out, or from
ECCHYMOMA. } *εξ*, without, and *χυμος*, juice. **SUG-
GILATIO,** Suggillation, is also applied in this sense.
*An effusion of fluids from their respective vessels under
the integuments.* The causes are pressure, or bruises; blood-letting, either from the orifice in the skin, sliding over that in the vein, or from the vein, being cut through. In slight cases, compresses dipt in vinegar, or in water, so strongly impregnated with salt, as to suspend an egg, frequently applied and kept on the part, will effect a cure. If it tends to suppuration, treat it as an abscess. It is recommended, when the quantity of coagulated blood is considerable, to discharge it by as many incisions as may be requisite for that purpose, and then treat it as an approaching mortification.

I have frequently found a very extensive eccymosis to disappear gradually, by the use of brisk purges, low diet, and discutient topical application. In some cases, small doses of calomel have been employed, to promote the absorption.

An eccymosis should be carefully distinguished from a spurious aneurism. It should be remarked also, that livid or black spots are sometimes a symptom of the scurvy. Vide *Heister's, Bell's and White's Surgery.*

ECTROPIUM, from *εκπιεω*, to evert or turn outwards. When the eye-lids are so inverted or retracted, or turned outward, that their interior red skin becomes prominent, and the eyes cannot sufficiently be covered by them,

Sometimes

Sometimes this disorder is unaccompanied with any other, but often an inflammation of the eye, a farcoma, or encanthis attends it. When it appears alone, it is caused by cicatrices after wounds, exulcerations, burns, and imprudent use of astringents, or from the protuberance of the internal fleshy parts. In old people, a relaxation of the orbicular muscle sometimes causes it in the lower eye-lid.

If the eye-lid is greatly distorted and contracted or if the disorder has been of long continuance, a cure is rarely to be expected.

When a cicatrix is the cause, endeavour to soften it by a frequent application of the steams of warm water, the egg liquor mentioned in the article ANCHYLOSIS, &c. At night, proper compresses may be applied to bring the eye-lids together, and keep them so.

When a contraction of the eye-lid is the cause, if emollients and compresses fail, an incision in the form of a crescent may be made, at a small distance from the eye-lashes; in the upper eye-lid, the points of the incision should be downwards, and in the under eye-lid upwards; thus the skin will be lengthened: the number of incisions may be one or more, according to the degree of the contraction; if more than one is required, make the rest parallel to the first, and at a small distance from it. When the necessary incisions are made, stretch the skin, and lay compresses of lint upon it; but at the second dressing, spread the lint with some digestive ointment to encourage the flesh rising betwixt the incisions; and slips of sticking plaster may be used to keep the upper and lower eye-lids close until the incisions are healed.

If an inflammation produces fungous flesh, first allay the inflammation, then gradually consume the fungus with the mildest escharotics.

In old age, a relaxation of the orbicular muscle sometimes produces this complaint; in this case, relief

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lief must be attempted by spirituous and strengthening applications.

Tumours in the orbit are sometimes the cause, and when not of a cancerous kind, the cure will depend on their extirpation. *Ware's Remarks on the Ophthalmia, &c.* Vide article BLEPHAROPTOSIS; also, *Warner's Cases in Surgery.* *St. Yves on Disorders of the Eyes.* *Bell's Surgery*, vol. iii.—*Wallis's Sauvages's Nosology of the Eyes*, and *White's Surgery*.

ELEPHANTIASIS. *A species of Leprosy.* It derives its name from so affecting the legs, as to make them resemble those of an elephant. Dr Cullen places this genus of disease in the class *cachexia*, and order *impetigines*; and defines it to be, a contagious disease, wherein the skin is thick, wrinkled, rough, and unctuous, divested of its hair; the extremities insensible with respect to feeling; the face disfigured with hard tumours, called *tubera*; the voice hoarse and nasal. In different parts of the skin, fungi sometimes arise, having the appearance of mulberries or raspberries.

Dr. Towne says, that negroes are very commonly the subjects of this disorder. That those are the most subject to it, who, after severe acute fevers, long continued intermittents, or other tedious illnesses, are either much exposed to the inclemency of rainy seasons, and the cold dews of the evening, or who are constrained to subsist on bad diet.

On the first attack, the patient complains of shiverings; these continue a few hours, and are succeeded by a pain in the head, back, and loins; a nausea and vomiting soon follow, with pain in one of the inguinal glands (never in both); a severe fever follows; the gland reddens, becomes hard, but seldom suppurates; a red streak runs down the thigh, from the swelled gland to the leg, almost an inch broad, and of a flesh colour; this streak soon swells, and then the fever abates, and the matter is thrown upon the leg by an imperfect crisis. By degrees, the leg is more

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and more tumefied, and the veins are formed into large varices, which are very apparent from the knee downward to the toes. After this, the skin grows rugged and unequal, a scaly substance soon forms itself on it, with fissures here and there. These scales do not dry off, but are daily protruded forward, until the leg is greatly enlarged. Though this scaly substance appears harsh and insensible, if it is superficially touched with the point of a lancet, the blood freely oozes out. Notwithstanding the monstrous size of the diseased leg, the appetite remains good, and in all other respects the patient is healthy: many of them continue thus for twenty years or more, and make no other complaint than what the enormous size of the leg occasions. It rarely happens that both legs are affected. White people are afflicted with this disorder, when subjected to the same circumstances that are the apparent cause in blacks.

This disease is infectious, and often found to be hereditary. Though the cure is uncertain, the bark, joined with antimonials, and generous diet, have proved beneficial. Mercury also has been useful, when administered with the other medicines. The first passages must be cleansed before the cure is thus attempted.

In this country the disorder appears at first in the form of tubercles on any or all parts of the body; in time they ulcerate: if they happen on the beard or eye-brows, the hairs there fall off; but this does not happen on the head. The legs swell, and are hard, white scales cover them, and fissures appear here and there, though in some instances the legs are emaciated and full of ulcers. Many other very disagreeable symptoms are observed in different patients.

None are observed to receive this disorder from others by contact, but generally the children of the diseased are subject to it.

The bark, with the following embrocation and blisters

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blisters, have proved serviceable, after mercurials and antimonials failed.

R Cort. Peruv. pulv. 3 iss. cort. rad. sassafr. pulv. 3 ss. syr. q. s. f. electar. cap. q. n. m. major bis in die.

R Spt. vini tenuior. 3v iij. aq. kali. 3 j. spt. sal. ammon. 3 ij. m. f. embroc. cum qua inung. partes affect. mane nocteque. The blister should be applied to the neck. Vide *Turner on Diseases of the Skin*, and *Brook's Practice of Physic*.

EMPHYSEMA, from *φυσάω*, to inflate, is any flatulent tumour, but by it is generally understood, a soft tumour arising from air being admitted into the cellular membrane. Dr. Cullen means by the word *pneumatosis*, which is his general name for this disease, the swelling formed by air, or else flatus or rarified fluids. He places it in the class *cachexiæ*, and order *intermescentiæ*. The species are, 1st, *Pneumatosis spontanea*; that is, when it happens without manifest cause. 2. *Pneumatosis traumatica*, when it happens from a wound in the thorax. 3. *Pneumatosis venenata*, when the cause is from the swallowing of poison, or an external application of it. 4. *Pneumatosis hysterica*, when accompanied with hysterics.

The most frequent cause of this disorder, is the piercing of the pleura, and wounding the lungs by the pointed fragments of broken ribs, though it sometimes happens that an *emphysema* is produced in the lungs by lacerations therein, without any injury having happened to the pleura: putridity is also a cause, as is seen in mortifications of the external parts, and in many instances of putrid fevers. Putridity raises the air both in vegetable and animal substances from a fixed to an elastic state. It never happens from pointed instruments, as the blood instantly stops the passages.

An *emphysema* is manifest by a soft puffy swelling, in which case the skin appears glossy, the tumour gives way on pressure, but that removed, it instantly returns, a crackling is perceived on stroking the *emphysematous*

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part; when the lungs are wounded, a troublesome cough attends, and the matter expectorated is mixed with blood; sometimes air escapes from the lungs into the cavity of the breast, and not being discharged outwardly through the pleura, &c. it occasions great difficulty of breathing, anxiety, a sense of suffocation, stupor, a livid colour in the face, and if relief is not speedily obtained, the patient dies. The air detained in any part of the cellular membrane may produce a mortification there.

When these kind of tumours happen in putrid disorders, fomentations may be applied to them, made with equal parts of sharp vinegar and rectified spirit of wine; but when a wound is the cause, if the breathing is quick and laborious, bleed, and repeat the operation as often as this symptom renders it necessary. Punctures, or rather small incisions, may be made into the cellular membrane, with a lancet, or in different parts of the body; the air will thus be excluded, if gentle pressure is also made on the tumour: when the air is thus evacuated, a compress may be dipped in vinegar, and applied over the part where the wound is supposed to be; a tight bandage may secure it, and the patient should be directed to lie on the injured side, to prevent a fresh afflux of air. Nitre, and pectoral emulsions, may be given to prevent internal suppurations. When the air is detained in the cavity of the breast, Mr. Hewson proposes to discharge it by a small opening made with a knife on the fore-part of the chest, which, if on the right-side, must be between the fifth and sixth ribs, because there the integuments are thin; but if on the left-side, the opening must be betwixt the seventh and eighth, or betwixt the eighth and ninth ribs, the better to avoid wounding the pericardium. Perhaps the punctures necessary to let out the air, should be made so as to form a valve of the integuments. It may be done by a trocar, and the tube left in the orifice to give a free passage to the air. Vide

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Lond. Med. Obs. and Enq. vol. ii. p. 17, &c. vol. iii. p. 28, 36, 372, and 379. Also White's Surgery, p. 78.

EMPYEMA, from *εν*, *within*, and *πυεμα*, *pus or matter*, The ancients called all internal suppurations *empyema*; but at present this name is confined to a collection of purulent *matter* lying loose in the cavity of the breast, and lodging on the diaphragm. If matter is lodged on both sides the breast, there are two *empyemas*.

The pus that forms an *empyema* may be from an abscess in the lungs, pleura, mediastinum, pericardium, or diaphragm; or perhaps from that inflammatory exudation, or inspissated serum, which Dr. Hunter observes is formed into a kind of pus, and is often found in large quantities in the cavities of the breast, belly, &c. Wounds in the breast may also evacuate their matter into its cavity, and prove a cause of this disease; making a way through the diaphragm, and emptying themselves into the breast.

When any fluid matter is collected in the cavity of the breast, it may be known by the following signs; *the breathing is short and laborious*; *expiration is more difficult than inspiration*; *the patient perceives a fluctuation when particular motions are performed*; *sometimes there is an enlargement of the cavity of the thorax*, and *an oedematous fullness of the skin and flesh on one side of the chest, or both*, according as the matter is lodged in one or both sides; *a dry cough*; when the matter is on one side only, *the patient cannot lie on the other*; *a slow fever, heat at the extremities of the fingers, hollowness of the eyes, &c.* but as to the kind of matter which is lodged here, it can only be known by the nature of the disorder which preceded its accumulation, from the preceding and concomitant symptoms. The matter may be water, blood, or pus; and the latter of these may be suspected when there hath been an inflammatory disorder of the lungs, pleura, or other parts in the breast, attended with symptoms of suppuration, and particularly if thick clammy sweats attend.

The chirurgical method by which relief is obtained, is termed *The Operation for the Empyema*. Though this operation is very seldom performed but for the evacuation of pus, it may undoubtedly be employed for *blood, water, and air*, with success. The method of performing it is as follows :

Lay the patient in an horizontal posture, with the side in which the perforation is to be made lying over the bed. In this situation, an assistant must pull the skin opposite to the part to be cut, as much upwards as possible, and preserve it firmly in that situation during the operation. Then, with a scalpel, make an incision, of about two inches in length, betwixt the sixth and seventh ribs, in the direction of these bones, and at an equal distance, between the sternum and backbone, taking care to avoid the under border of the superior rib, on account of the blood vessels running in its groove. It is not necessary that the incision to the bottom should be of the same extent as that in the skin and cellular substance.

The pleura being laid bare, divide it slowly and cautiously, to avoid wounding the lungs, if there should happen to be an adhesion. If they do not adhere, the water will rush out in great force immediately on a small hole being made in the pleura. Should there be an adhesion, the incision may be either continued forward for an inch or two nearer the sternum, or, another opening may me made, either an inch or two higher, or lower in the thorax. As soon as the water is found to flow, a silver canula, with a pierced body, should be introduced at the opening. If you do not wish to evacuate all the water at one time, secure the canula by a ribbon connected with it, tied round the body, and apply a piece of cork to the opening. Thus, after a day or two, an additional quantity of water may be drawn off. The dressing may be some bland ointment, secured by the napkin and scalpular bandage.

In case of water being collected in both cavities of the chest, the operation must be performed on both sides; but some little time should intervene between the first and second. Before the second operation, the air must be expelled, which may be done (after withdrawing the canula from the opposite side) by endeavouring to fill the lungs with air, which will expel a considerable part of what was collected between the pleura and lungs, by the perforation. This, repeated several times, will expel almost the whole of the air collected between the pleura and lungs. After this, the skin must be drawn over the wound, and, by a compress and bandage, the parts will unite without further trouble.

During each inspiration, the retracted skin should be drawn over the sore.

Another mode of drawing off the air, is by an exhausting syringe, or an elastic vegetable bottle, with a mouth of ivory or metal fitted to the opening in the pleura.

When this operation is performed for the evacuation of blood, it is sometimes so coagulated as not to pass off by the perforation. In this case the opening in the pleura should be enlarged to the extent of an inch or so; but if this does not answer, tepid water must be injected with great caution. It may be necessary to repeat it frequently, in order to soften and dissolve the blood.

The collection of blood in the thorax being, in consequence of a rupture of a blood vessel, induced either by a fractured bone, or some extraneous body being pressed into it; the incision should be made contiguous to the part affected, not only for evacuating the blood, but to remove the detached bone, or foreign body.

When a wound with a sharp pointed instrument is the cause of the collection, and the wound is situated in the inferior part of the thorax, it is merely necessary to enlarge the wound.

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When this operation is performed for the evacuation of pus; observe, whenever the seat of the abscess is pointed out, either by a long continuance of pain in one point, or by matter being distinguished between two of the ribs, it is the best direction for the place of the incision: again, when the matter is seated so immediately below the sternum, that it cannot be evacuated by an opening between two of the ribs, a piece of that bone must be removed by the trepan. The opening in the thorax must not be allowed to heal too quickly, particularly when the slightest symptom of oppression in the breast is present. To prevent the healing, a piece of common bougie, or a short tube of silver, introduced into the opening, and allowed to remain there a few hours, as often as a tendency in the part to heal seems to make it necessary, will be sufficient. Vide *Bell's Surgery*, vol. ii. Also, *Sharpe's Operations*. *Heister's Surgery*. *Kirkland's Med. Surgery*, vol. ii. *Pearson's Principles of Surgery*, vol. i. and *White's Surgery*.

Though the established practice in this operation is to make the first incision in the direction of the ribs, we should, perhaps, more fairly expose the cavity between the ribs, and be better able to regulate the size of the opening, if the incision was to be made in a direction upwards and downwards.

ENCANTHIS, from *εν*, in, and *κανθός*, an angle of the eye. This disorder is an encysted tumour on its inner angle. At the first, a tubercle appears on the caruncula lachrymalis, or on the crescent-like red cuticle adjacent to it; afterwards this tumour extends over the pupil of the eye; when this happens, the tears continually trickle down the cheeks, the sight is impaired, the countenance deformed, and the eyes inflamed.

When this tumour is of a malignant kind, it is attended with pain, is of a livid hue, and often becomes cancerous. If it is manifestly cancerous, palliatives only are to be used; but if not, dissect the whole tumour

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tumour and its cyst ; in doing which, raise it with the forceps, the better to avoid cutting either the eye or the caruncle : if the latter is hurt, the tears will ever after run down the cheek ; it is therefore safer to leave a little of the luxuriant flesh. Vide Article ECTROPIUM, also *Heister's Surgery*, and *White's Surgery*, p. 231.

ENSIFORMIS, from *ensis*, a sword, and *forma*, a form, CARTILAGO, *The Sword-like Cartilage*, called also *xiphoides*. It is the cartilage at the bottom of the sternum. It is observed by Dr. Hunter, that if this cartilage should be pressed inwardly by a blow, it will occasion vomitings and violent pains, by pressing against the pylorus ; in this case, it would be proper to lay it bare, and elevate it ; but the diaphragm arising partly from it would probably displace it.

EPIPHORA, from *πηγω*, to carry with a force. This term in surgery is applied to the eyes, when the tears trickle down from them, in consequence of obstructed puncta lachrymalia, or inflammatory influx of the humours upon the eyes.

The *Epiphora*, or WATERY EYE, may be occasioned either by a more copious secretion of tears, than the puncta lachrymalia are capable of absorbing, or what is more commonly the cause, by an obstruction in the lachrymal canal : whence the tears are prevented from passing freely from the eye into the nose. When there is too copious a secretion of tears, its cause is inflammation ; *this though is symptomatic*, and is cured by removing the inflammation, and giving tone to the affected parts, by mild astringents.

When it originates from an obstruction of the ducts, leading from the puncta lachrymalia into the lachrymal sac, *a case which rarely occurs*, the tears fall over the cheeks, and the sac is constantly empty. In the cure of this, pressure is useless ; but a probe of suitable size may be introduced through the puncta of the obstructed ducts into the sac, and daily repeated until the obstruction

obstruction is removed. The obstruction is most commonly in the sac, in this case, the tears, sometimes mixed with mucus, flow back into the eye through the puncta, when pressure is made upon the sac. The causes producing an obstruction to the passage of the tears, are, either *a thickening of the membrane lining the sac*; *a lodgment of inspissated mucus in the inferior portion of the cavity*, or *a spasmodic action in that part, called by some the sphincter of the sac*. Either of these causes may take place separately; they sometimes exist together, and mutually tend to encrease each other.

The most approved mode of cure, was first recommended by *M. Anel*, in the year 1712. It consisted in first passing a probe, and afterwards injecting a liquor through the puncta lachrymalia, in order to clear away the matter which obstructed the lachrymal passage. In performing this process, stand either behind the patient, or on the side opposite to that of the diseased eye, and always high enough to have a full command of the patient's head. Then take a small silver syringe, with a pipe of a suitable size, a little arched towards the point, introduce it into the punctum lachrymalia, and through it inject some warm water. Before the introduction of the syringe, draw the eyelid downward, and a little outward with the fore-finger of the left hand. The pipe introduced, remove the finger from the lower lid, and apply it as accurately as possible over the superior punctum, to prevent the liquor from escaping through it. To determine the liquor downwards to the nose, the lachrymal sac may be compressed. To the syringe used for this operation, there should be pipes fitted, and the largest that can be introduced without giving pain must be employed. Vide *Ware* on the EPIPHORA, or *Watery Eye*. *Brook's Practice of Physic*, and *White's Surgery*, p. 233.

A tumour in the angle of the eye, a polypus in the nose, a distortion of the eyelids, and a fistula lachrymalis,

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Iachrymalis, will also produce a watery eye; these, being only symptomatic, will disappear on the removal of the different causes.

EPIPLOCELE, from *επιπλων*, the omentum, and *πλων*, a rupture. An **HERNIA**, or *rupture of the OMENTUM*, is, when the omentum protrudes through the openings in the integuments of the belly. The symptoms are the same as in *bubonocelle*; for the treatment, vide article **BUBONOCELE**.

EPULUS, from *επι*, upon, *γλω*, the gums. A tubercle on the gums without inflammation. There are two species; one without pain, the other is troublesome, and often degenerates into a cancer. They are of different sizes, some having a broad basis, and others a slender neck, by which they are united to the gums. The best method of cure, when they have a small neck, is to remove them by a ligature; when they have a broad base, the knife will be necessary. Vide *Heister's Surgery*.

ERYSIPelas. *Antonii sancti ignis.* Saint Anthony's Fire. It is also called the **GIRDLE** and **SHINGLES**, and some name it the **ROSE**, from its red colour. The *true species*, is acute and inflammatory.

This disorder may be on any part of the body; but the face is most frequently affected, the arm next, and then the feet and other parts. The seat of the true species is in the surface of the skin; Heister says, in the scarf-skin and fat contiguous thereto, and the internal membranes. The bastard kind lies deeper, and is apt to degenerate into ulcers.

Autumn, or when hot weather is succeeded by cold and wet, are the seasons which favour this disease, and in which it most frequently happens. The fanguine and plethoric, young people, and pregnant women, are the most subject to it. Those who have once been affected, are very liable to future attacks.

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The causes are, in general, the same as those which produce other kinds of inflammations; but chiefly sudden cold succeeding a great heat or sweat, obstructed perspiration, and a sharp state of the blood.

The diagnostics of this disease are described by Tissot thus: It is sometimes but a slight indisposition, which appears on the skin, without the person being sensible of any other disorder; and it most commonly breaks out in the face or on one leg. The skin becomes tense, or stiff, rough, and red; but this redness disappears on pressing the spot with a finger, and returns on removing it. A burning heat is felt in the part affected, which makes the patient uneasy, and sometimes hinders him from sleeping. The disorder increases for two or three days, continues at its height one or two, and then abates: soon after this, that part of the skin which was affected, falls off in large scales, and the disorder terminates. Sometimes the malady is more severe, beginning with a violent shivering, which is succeeded by a burning heat, a vehement head-ach, sickness at heart (as it is commonly termed) or reaching to yomit, which continues till the *erysipelas* appears, which sometimes does not happen till the second or third day; the fever then abates, and the sickness goes off; though frequently a less degree of sickness, or loathing, and of fever remain during the whole time of the increase of the disease. When the inflammation and eruption happen in the face, the head-ach continues until the decline of the disease; the eyelids swell, the eyes close, and the patient has no ease. It often passes from one cheek to the other, and extends successively over the forehead, neck, and nape of the neck, under which circumstance the disease is of a more than ordinary duration. Sometimes also, when it exists in a high degree, the fever continues, the brain is oppressed and obstructed, the patient raves, and his case becomes exceeding dangerous

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gerous. A violent *erysipelas* in the neck brings on a quinsey, which is very grievous, and often fatal. When it attacks the leg, the whole of it is swelled up, and the heat and irritation from it is extended up to the thigh. Whenever the tumour is considerable, the part it seizes is covered with small pustules, filled with a clear watery humour, resembling those which appear after a burn; these afterwards dry and scale off. Sometimes, when this distemper affects the face, the humour, which issues out of these pustules, is thick and gluey, and forms a thick scurf and scab, nearly resembling those of sucking children, and they continue fast on the face many days before they fall off. When the disease is violent, it continues eight, ten, or twelve days at the same height, and is at last terminated by a very plentiful sweat, that may sometimes be predicted by a restlessness, attended with shivering and a little anxiety of some hours' duration. In the progress of the disease, the whole skin is very dry, and even the inside of the mouth.

An *erysipelas* rarely comes to suppuration; when it does, the suppuration is always unkindly, and much disposed to degenerate into an ulcer. Sometimes, a malignant kind of *erysipelas* is epidemical, and then it often terminates in a gangrene. This distemper often shifts its situation, it sometimes retires suddenly, but the patient is uneasy and disordered, he has a propensity to vomit, with a sensible anxiety and heat; the *erysipelas* appears again in a different part, and the patient feels himself quite relieved from the preceding symptoms. But, if instead of re-appearing on some other part of the surface, the humour is thrown upon the brain, or the breast, he dies within a few hours; and these fatal changes and translations sometimes occur without the least reason or colour for ascribing them either to any error of the patient, or of his physician. If the humours have been transferred to the brain, the patient immediately

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ately becomes delirious, with a highly flushed visage, and very quick sparkling eyes; soon after, he proves frantic, and goes off in a lethargy. If the lungs are attacked, the anxiety and heat are inexpressible. There are some constitutions subject to a very frequent, and, as it were, an habitual *erysipelas*. If it often affects the face, it is generally repeated on the same side of it, and that eye is at length considerably weakened by it.

The *erysipelas* should be distinguished from the plague, and from inflammations of different kinds that happen on the skin.

As to the prognostics, many of them may be noted from the diagnostics above related: when it approaches suddenly, but with little disturbance, and attacks a person with a good habit, and when no nervous, membranous, or principal parts are affected, there is but little to be apprehended from it. Sometimes a convulsive disease, as an asthma, colic, &c. has been relieved by the approach of an *erysipelas*. Danger is very considerable when this disorder is deeply seated, fixed on a sensible part, and the habit of body but indifferent: in some bad habits, this disorder leaves behind it a swelling in the foot, or ankle, or both, which is both troublesome and difficult to remove; by bad management, it is easily and soon rendered fatal; frequent returns denote a disordered liver or gall-bladder: when it is seated in the face, a drowsiness often attends it; in which case, there is danger of a phrenitis, or of a mortal lethargy: when it seizes the breasts, particularly of women in child-bed, or who give suck, an abscess is the consequence for the most part: if the nostrils and mouth are dry, and the patient is drowsy, an inflammation of the brain is to be suspected: it is generally fatal within the seventh day, when the patient dies; and they who are often seized with it, at last die of it.

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The diet should be thin and perspirative; roasted apples may be eaten freely; the drink may be whey, barley-water, small-beer, water gruel, or, if the pulse sinks, small negus may be allowed. The patient should keep out of the bed, during some hours in the day. But from the extremes of hot and cold, equal care should be taken to guard against them.

In order to the cure, the first endeavours should be to remove this disorder by resolution. In the slighter cases, perspiration may be kept up with frequent draughts of camomile, or of elder-flower tea, acidulated with the spt. feb. Di. Clutton, or with other cooling perspiratives. If the face and head be affected, gentle, but repeated purging is to be directed; they should also be continued until all danger seems to be removed. But, if the pulse is strong and hard, bleed, and repeat it as the fever and strength of the patient indicates; in this case, besides nitre and other cooling perspiratives, the bowels may be kept soluble by means of whey, prepared by turning cow's milk with cream of tartar, tamarinds, &c. Dr. Freind observes, that when the head is affected, purges are the specifics; but it may be added, that in such like cases, finapisms may be applied with singular advantage to the soles of the feet.

From an admission of cold air, the *erysipelatous* matter is sometimes repelled; when this happens, bleed immediately, apply blisters on the sides of the neck, one on the part from whence the inflammation receded, and finapisms to the feet; administer a purge, and repeat the like as the case may require.

When the pulse is low, cordials, and the warmer perspiratives, should accompany the use of blisters.

When an *erysipelas* attacks, or is repelled to the lungs, the only chance of life is to divert it therefrom, and fix it on the external parts: in this case, besides the fever, pain in the breast, and other violent

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lent symptoms, the patient frequently faints; and but rarely survives his sufferings.

Blisters are often useful.

In the wandering kinds of this disorder, give half an ounce of the suc bac. sambuc spissat four times a day, with five or six grains of the sal polychrest. in each dose; every third day give a cooling purge; place the patient every evening in a pedilave, and after it apply sinapisms to his feet.

From the nature of this disease, and from the peculiarities in the skins of different persons, much caution is required in the application of external remedies. When the scarf-skin is raised in blisters, and the serum begins to transude, then apply absorbing external medicines, such as chalk finely powdered, or a thin rag may be spread over the inflamed part, and the chalk or fine flour sprinkled upon the rag; or, instead of these, flannels wrung out of a decoction of elder and camomile flowers may be applied as often as they grow cool. Among liquids, Goullard's saturnine water is one of the best applications, and may safely be used in every case where a resolution of the inflammation is the aim. Rye-meal mixt with common salt, is an excellent discutient.

If, notwithstanding all endeavours to discurse, the symptoms of a suppuration still prevail, encourage them by applying the common white-bread poultice.

If a gangrene is threatened, besides the inward use of camphor and the bark, spirituous and strengthening applications should be employed externally such as mixtures of lime-water with camphorated spirit mixed with tincture of myrrh, or an infusion of the bark.

The erysipelas is not always of the phlegmonic, but sometimes of the nervous or low kind. It sometimes appears with a redness in the skin; a kind of puffiness instead of a swelling; the pain is more acute; but the throbbing of the vessels less; no circum-

umscribed tumour; but the parts are more inflamed; as the disease declines, the redness of the skin assumes a purple hue; it is very liable to terminate in mortification; the habit, from the first, and throughout, is very irritable, and the strength depressed. It generally attacks the heart, and præcordia, and is accompanied with cardialgia, itching, inflammation of the skin, painful exacerbations, and small pustules.

In strong habits, both the phlegmonous and low erysipelas may exist together. In this case, moderate bleeding is useful, but must be employed with caution. If the strength fails, and pustules appear, wine, and as much bark as the stomach will bear, must be directed. When the pustules are all out, they may be snipped, the fluid absorbed by a soft rag, then dressed with *ung. sperm. ceti*; or *ung. lap. calamin.* Vide *Wallis's Sydenham. Heister's Institutes of Surgery. Mugenise, on Inflammations. Cullen's First Lines, edit. iv. vol. ii. Kirkland's Med. Surg. vol. i. Pearson's Principles of Surgery, vol. i. and White's Surgery.*

ESCHAROTICA, from *εσχαρω*, to skin over, scab over, or burn into a crust. *Escharotics.* Medicines so called, which, when applied to the flesh, form a hard crust, or eschar; or medicines that skin over a wound.

Caustics and *escharotics* differ only in degree, both being what destroys any fleshy part to which they are applied on living bodies.

The caustics chiefly used are, *argent. nitrat. calx e kali pulv. & antimon. muriat.* They act by the acrid salts which they contain.

Their use, besides that of destroying excrescences, &c. is to open large abscesses where there is danger of cutting some adjacent vessel, or when the patient dreads the knife. In this case, the common milder caustic generally suffices, and may be thus applied: lay two or three pieces of sticking-plaster, pressed on each other, on the soft part of the abscess, having

previously cut a hole in them, nearly as big as the eschar is to be made ; then, in the hole of the plaster, lay the caustic, which must be secured by another piece of sticking-plaster : when the skin is not inflamed, the caustic very often occasions little or no pain. When the caustic has produced its effect, an opening may be made through it for the discharge of the pus, but the rest may digest away. When issues are made by caustics, or bones laid bare by them, the eschar must be immediately removed, or the next day, lest new flesh should fill up the part which is opened. To lay a bone bare, or to make an issue, let the caustic lay on about four hours ; to destroy a large gland, lay it on six hours ; but to open an abscess, it may remain two or three hours, according to the thickness of the skin ; though, generally, when the effect of the caustic is completed, the part on which it is applied ceases to be uneasy.

When a large fungus is to be destroyed by a caustic, the method described in the *Edinb. Med. Essays*, seems most eligible ; it is as follows : the *lap. infern.* was applied to a tumour on the coats of the testis ; after the separation of the eschar, the *lap. infern.* & *ol. vitr.* were alternately used, by rubbing the part first with the *lap. infern.* then in less than a minute after, with a fir stick dipped in the *ol. vitr.* which instantly removed the pain occasioned by the *lap. infernalis* ; at each dressing, this alternate application of these opposite caustics was repeated, till as much was wasted as was then thought convenient ; the moisture was absorbed by an armed probe, and a digestive applied. This method prevents the continuance of pain, and is not productive of any degree of inflammation ; it is also recommended for the removal of scirrhus, or any other kind of tumour that admits of a caustic being made use of.

Mr. John Hunter recommends a mixture of opium with the caustics, in order to lessen the pain which they occasion.

EXFOLIATIO. Exfoliation. One principle cause of an *exfoliation* of a bone is, an interruption of the continuity of the vessels which nourish it. The coldness of the air, by contracting and drying up the extremities of the small vessels of the bone, also puts a stop to the circulation of the nourishing matter through them. Mr. John Hunter observes, that "one part of a bone is never separated from another by the rotting of the dead part, for that which comes away is as sound as it ever was. *Exfoliation* takes place soonest in bones wherein are the fewest cells, and whose texture is the closest. Before any part of a bone can be thrown off by *exfoliation* it must be dead. But even then, till the process of *exfoliation* begins, the bone adheres as strongly as ever, and would remain for years before it could be separated by putrefaction alone. Bones are composed of two substances, viz. a true animal matter, and an earthy one, which are only intermixed with each other. A dead bone acts on the system, in the same manner as any other extraneous body. It stimulates the adjacent living parts; in consequence of which, such a process is begun that must terminate in its being thrown off. The effects of this stimulus, are, first, that the living adjacent bone becomes more vascular; a circumstance which always takes place when a part has more to do than is just sufficient for the support of life. Secondly, that the earth of the living part where it is in contact with the dead bone, is absorbed; hence the bone becomes softer, and adheres by its animal matter only. Thirdly, that the living animal part is at last absorbed along the surfaces of contact: this part of the process commences long before the last is finished. Both of them begin first at the surface, though in their course they do not every where take place in an equal degree at the same time. Fourthly, in proportion to the waste made by the last part of the process, a fungus arises from the living surface, and fills up the intermediate space, so that

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there may be no vacuum. These different stages, taken together, constitute ulceration. When any part of a bone is once loose, it will be pushed to the surface in the same manner as most other inanimate bodies would be, and this stage is partly mechanical, partly a continuation of ulceration. A proof of the third stage abovementioned, may be derived from those cases where people die while *exfoliation* is going on. A small groove, or worm-eaten canal can then be discovered, which becomes gradually deeper, and follows the irregularities of the living and dead surfaces. After the application of the trepan, a circular piece of bone is frequently thrown off, which is always less than the space from whence it came. This however, would never be the case, were there not a loss of substance."

When a bone is laid bare by any accident, and an *exfoliation* is feared, if several perforations are made in the bone, the *exfoliation* will be prevented; in such cases, the wound should be kept clean, and defended from unctuous and watery medicaments; pledges of lint are as proper applications as any; or they may be dipped in a mixture of the ol. tereb. and tinct. myrrh. As to caustics, Mr. Hunter says, that "caustics, or the actual cautery, do neither of them hasten *exfoliation*; they produce death only in part of the bone, which is the first step towards *exfoliation*. If caustics ever hasten *exfoliation*, where the bone is already dead, it must be by producing inflammation in the adjacent living bone; this brings about a change in it, and makes it exert a power which it was incapable of before." Vide article **CARIES**.

EXOSTOSIS, from *ξ*, *of*, or *out*, and *οστον*, *a bone*. It is a preternatural excrescence of a bone, or a tumour on a bone. Mr. Pott calls it an enlargement of the bone. Its hardness equals, or rather exceeds that of the bone from which it proceeds.

The *exostosis* seems to be caused by the discharge
of

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of a superfluous quantity of ossific matter upon the part where it is seated, or from a separation of the bony lamellæ. The cause of the first is not known, but the other may be the effect of irritation, which will cause a swelling of the bone, and this irritation may be diseased or not; if diseased, the part must be amputated; if not, which is not unfrequently the case, the patient may live to an old age, without any considerable inconvenience.

This disorder should be distinguished from venereal nodes, from the rickets, from tophs, and from the spina ventosa.

The diseased irritation may be known by its violent and frequent pain.

In order to cure, as soon as the nature of the cause is understood, and encouragement to hope for success is manifest, make an incision, and lay the bone bare, then saw the diseased part off; or if it is not too big, remove it by the trepan. This will succeed, if the habit is not much vitiated; but if the constitution is also faulty, and the *exostosis* proceeds from the exuberance of bony matter, amputation is the only method of relief, though, generally, in this case, the whole is best left to nature.

Sometimes a preternatural hardness of the ligament is called an *exostosis*; this spurious sort, as well as the venereal nodes, are relieved by mercurials.

Exostoses happening in the middle of hard bones are generally hard in all their parts, but those near the ends of them, or about the joints, have often only an hard external lamina. When this disorder happens on the bones of the skull, the consequence may be an apoplexy, epilepsy, or a palsy. See *Petit's Diseases of the Bones*, part ii. ch. xvi. and *Bell's Surgery*, vol. v.

EXTRAVASATIO, *Extravasation*, from *extra*, and *vasa*, *out of the vessel*. This is applied to any of the fluids in the body, which are out of their proper

vessels:

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vessels: thus an ecchymosis, or aneurism, may be called *extravasations*.

An *extravasation* on the brain, produces one or more of the following symptoms, viz. a palsy of one leg or arm, or both; dizziness; sleepiness; impaired sight; ravings; bleeding at the nose or ears; vomiting; loss of sense; stupor, &c. Vide Article CEREBRI COMPRESSIO.

An *extravasation* on the brain should be distinguished from a concussion; in the first, the symptoms are often better and worse; in the latter, they are continually the same.

Wounds on the head, with *extravasations*, are very fallacious, because the *extravasation* may be between the skull and the dura mater, or under it, both at the same time, or under the pia mater, or in several other parts of the brain; but when these happen, bad symptoms are directly produced.

Whenever the dura mater, either by depression, fissure, or fracture, loses its adhesion, there will be from its blood vessels that are broken, an *extravasation* between the bone and it. An *extravasation* is less considerable, when a fracture of the skull happens than when there is a fissure. An *extravasation* is also more or less dangerous, according to what part of the brain the accident happens on. *Extravasations* from a blow are most commonly found under the skull, that is, between it and the dura mater; in this case, a lethargy or symptom will continue, until the *extravasation* is removed.

Mr. Bromfield recommends the use of opiates in fractures and concussions of the brains (vide CONCUSSIO); the same practice may be also useful in some degrees of *extravasation*; but, besides this, he observes, that when violent accidents have happened to the head, an issue in the opening formed by the separation of the additamentum of the temporal bone is of singular advantage. Vide the first vol. of his Chirurgical Observations.

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FISSURA, a *Fissure* or *crack*, from *findo*, to cleave. These are either natural or morbid: thus the mouth or other natural apertures into the body are called *fissures*. Morbid *fissures* are cracks in the skull, &c. or are when a bone fractured in any part is length-wise.

A morbid *fissure* differs from a fracture, by the first having some degree of cohesion, but in the latter, there is a total solution of continuity. A fracture is tranverse or oblique, and a *fissure* is longitudinal.

Fissures most frequently happen in the skull, and of these there are, *first*, the *contra-fissure* or *counter-fissure*, and this is when the blow is received on one side of the head, and the skull is cracked on the other; or, where the internal table is broken, the external remaining sound; or, where the stroke is received on one bone, and the *fissure* is in that adjoining. *Secondly*, that kind which is most frequent, is that which, when large, is soon discovered by laying the bone bare, and cleaning the part with sponge. But sometimes they are so small, that some art is necessary to discover them; in which case, rub a black liquor made of burnt bone, or cork, mixed with water, or *ink*, and immediately wash it off again; this black liquor sinking into the crack discovers where its situation is: or, if the head is clean shaved, and the patient is bled freely, an *œdematous* puffiness will appear in a day or two over the part affected.

Fissures are often productive of worse consequences than fractures, for there is often at the same time a concussion of the brain; whence it is the more necessary

cessary to be well assured of the attendance of this accident, or the contrary. Instances of the ill effects of *fissures* have happened ten months or more after the accident. It is not simply the *fissure* that is dangerous, but the violence that occasioned it, which also occasions the teguments and the bone to suffer: all the bad symptoms depend principally upon the rupture of a great number of vessels, and a detension of extravasated liquids, whence the bone is corrupted; and when this happens, a sudden and unexpected death is often the consequence. The cranium cannot be *fissured* without being also contused, by which many vessels in the substance of the bone and in the diploe are broken.

Trepanning seems to be the properst method of relief, though the method recommended by Mr. Bromfield, in concussions of the brain, has alone effected a cure.

FISTULA, in surgery, is a kind of ulcer. It differs from a sinus thus: a *fistula* is narrower, generally continues longer, and has its internal surface and its orifice for the most part callous. The seat of a *fistula* is in the cellular membrane. It is known to be present when there is an aperture on the surface of the body from which a sanious, or other matter, either flows or may be pressed out; its depth and direction is discovered by a probe; or, if the directions are various, warm water may be injected therein, and if the course is near the skin, it will be observed by the elevation made by the water, or, if otherwise, the quantity of water retained will determine the size of the cavity.

Mr. Bell, in his Treatise on Ulcers, includes the *fistula* in his species of sinuous ulcer. By sinuous ulcer, he means that kind of sore which has one or more openings running into it from chinks of the same, or of different directions. A sinus, as thus described, he says, is the most simple state of the disorder, and is, by long continuance, or by the use

of drying astringent applications, liable to become hard and callous in its internal surface, and in such a state, from its supposed resemblance to a pipe, is termed a *fistula*. The most frequent cause of sinuses forming in ulcers and abscesses, is the want of vent to the discharge, which easily insinuates itself into the soft yielding substance of the cellular membrane, and proceeds on gradually till it somewhere or other finds an opening either externally, or into some of the neighbouring cavities. An improper application of bandages on ulcers is sometimes a cause.

When *fistulas*, as yet not become callous, are complicated with ulcers, the most expeditious relief is from an incision to the very bottom, if it can be done without danger, after which they are to be deterged and consolidated. Another step is, to press their bottoms towards their orifices; for which purpose a narrow compress, or a slip of plaster wrapped up in that form, is, after the ulcer is cleaned, and proper medicines put into the *fistula*, to be applied to its bottom, and secured as in other ulcers, with lint, plaster, and bandages; in applying the bandage, apply it to the bottom of the *fistula*, or, at least, to make it tightest there, that the peccant matter may be propelled from the bottom to the mouth of the *fistula*, in consequence of which the bottom will be soonest healed; this happens most frequently when the *fistula* is in the arms or legs, or when its mouth is lower than its bottom. Some absolutely condemn all tents and injections; but as to the latter, when *fistulas* lie too deep for having their most remote parts cleansed, detergent injections must be used, such as a decoction of birthwort, mixed with honey-of roses, or with the tincture of myrrh and aloes: this, or some other such liquid, must be injected warm at every dressing, and retained for a short time, at the same time gently compressing the bottom and mouth of the *fistula*, that the peccant matter may more effectually be washed off, and this method must be continued until the bottom

tom of the *fistula* begins to be conglutinated; then dress with some soft digestive, in which is the bals. Peruv. or bals. capivi. This method failing, the manual operation must be attempted, but, indeed, it is not to be depended on, except when the opening can be made to the bottom of the ulcer. The incision is made with most ease to the patient with a knife; but whatever instrument is used, as much skin and flesh is to be cut as is thought safe and sufficient to answer the end; for when the bottoms of *fistulas* are laid open, the corrupted matter is not only discharged, but medicines are also more commodiously applied. If, upon making the incision, a large quantity of blood is discharged, fill the wound with dry lint, and proceed afterwards as is usual in recent wounds. Mr. Bell, in his Treatise on Ulcers, advises almost universally to shun the practice of laying the different sinuses open from one end to the other, then cutting out all the hardened parts, so to convert the whole into one common ulcer. This method he owns will frequently effect a cure; but, independent of the great pain, and very large unseemly cicatrix which it occasions, it cannot, in every case, with safety be put in practice: e. g. when sinuses run far up the rectum, it cannot ever be conveniently done; they penetrate deep, and run below either large blood-vessels, tendons, or nerves; it would never in these cases be adviseable to have recourse to such treatment. The intention of cure, in every case of sinus, is to produce a coalescence of its sides, so as to destroy any vacuity that may have occurred: the most effectual means of accomplishing which, is, 1st, To make a depending orifice for a free exit to the matter; and then, 2dly, by a gentle irritation, to induce, on the internal surface of the sinus, a slight degree of inflammation, which, by experience, is known to be that state most favourable to the production of adhesion between any two parts; so that a firm union of the

sides of the sinus to one another, may, in due time, be obtained. To answer both these intentions, Mr. Bell says, that the introduction of a seton is sufficient. The seton must pass from the orifice in the ulcer, along the course of the sinus to its other extremity, where an opening, large enough for the discharge, should be made, as is done in cases of abscess. The cord of cotton, or of silk, should at first be pretty large, more or less so, according to the capacity of the sinus; it should be diminished gradually as the cure advances, by taking away a thread or two from its thickness every second or third day; and at last, when the discharge is greatly lessened, by the vacuity occasioned by the sinus being mostly filled up, the seton should be totally withdrawn, and a bandage somewhat tight being applied over the part, and continued for some time longer, a complete cure will, in general, be in due time effected. The first step then to be taken, is to discover the direction of the sinus, or sinuses, which may commonly be done, either by introducing a probe, or by observing where the matter points, on being allowed to collect for some time, and from whence it comes on the parts being pressed; then into every sinus that opens into the ulcer, a seton should be introduced. This method of curing sinuses, by the use of a seton, is free from all danger, and is admissible in all cases of this kind. A seton, by means of a director, may always be used with safety. The sinuses, being removed by the setons, the ulcers they were connected with are then to be cured as is usual with that species which it happens to belong to. This practice rarely fails in any case of simple sinus; in general, it answers in real *fistulæ*; when a *fistula* happens in the perinæum, this practice is peculiarly advantageous, not producing that troublesome cicatrix which happens when the knife is used. The only objection to the use of the seton in cases of *fistula in ano*, is the irritation it

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would occasion in the gut. Vide Pott's Treatise on *Fistulas*. Bell's Treatise on Ulcers.

Fistula in Ano.

This kind of *fistula* is called complete, when there is an opening into the gut, and another externally; it is called incomplete, when there is no external aperture.

The symptoms of the incomplete kind, are analogous to those of the piles, and therefore are difficultly distinguished. The complete kind has generally callos lips, which, with the discharge therefrom, more readily points out the nature of the case.

Abscesses in this part should be opened as soon as we find a fluctuation of matter, and that by a large opening, which is the most effectual method to prevent a return. In examining one of these *fistulas*, if the probe does not readily pass, inject warm milk into it, and observe if any returns by the rectum; if it does, it is clear that the gut is perforated. When the probe is used for examining, let the patient stand on the ground with his feet pretty far asunder, and lean on his belly over a table, then an assistant can hold the buttocks asunder, that the operator may more readily introduce his finger into the anus, before he examines the *fistula* with a probe. If the *fistula* runs so deep, that the finger introduced into the anus cannot easily reach the orifice, then the cure is not practicable, on account of the haemorrhage from the vessels, which admit not either of compression or ligature. If a *fistula* has been of long standing, in a bad habit, and the discharge is such as to weaken the patient, the operation should not be attempted, at least till the constitution is repaired; but if the patient is of a good habit, if the *fistula* returns, the operation may be repeated.

The following is Dr. Monro's method of operating:
" Wherever the opening of the *fistula* is, if it has any

any turnings where it reaches the gut, divide them, and make them straight, avoiding the sphincter. After this, I attempt to promote incarnation, which might lessen the cavity, and by degrees fill it up, by injecting balsamic softening medicines ; though sometimes a patient of a good habit may be cured by applying a poultice of bread and milk, and a digestive. If these fail, I endeavour to render the parts entirely callous and insensible, by injecting a mixture of lime-water and brandy, with a little honey of roses, increasing the brandy and diminishing the rest, as the parts lose their sensibility, until at length I inject pure alcohol, which renders them quite insensible." Vide *Heister's Surgery* ; *Le Dran's Operations* ; *Sbarpe's Operations*. *Pott's Treatise on Fistulas*. *Bell's Surgery*, vol. ii. *Kirkland's Med. Surg.* vol. ii. and *White's Surgery*, and *Lond. Med. Journ.* vol. v. p. 392.

Fistula in the Epididymis.

In the *Lond. Med. Obs.* and *Inq.* vol. ii. p. 273, is an instance of a *fistula* in this part being cured. The substance of the relation is as follows : A man, of thirty-five years of age, hurt his testicles by a fall ; a suppuration followed, and the matter was discharged externally. After this, the swelling being reduced by means of an emollient cataplasm, a *fistula* was discovered in each epididymis ; a probe director was then introduced into the left sinus, which was cut open its whole length ; after which all the indurated parts were dissected, and all the diseased skin : the same was done on both sides, and a part of the epididymis on the right side was cut away. After this, the dressings, as in common wounds, finished a cure. And what deserves some notice in this case is, that the functions of the testes were afterwards fully executed.

Fistula Lachrymalis, vide article *Ægyllops*,

Is generally understood to be such a disorder of the canals leading from the eye to the nose, as obstructs the

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natural passage of the tears, and makes them trickle down the cheeks. In the first and mildest stage of this disease, an inflammation in this part is alone observed : in the next stage, there is matter discharged from the puncta lachrymalia, which flows along with the tears ; or it may be, that the matter proceeds from an orifice broken through the skin, between the nose and the angle of the eye. The last and worst degree is when the matter of the abscess has not only corroded the neighbouring soft parts, but also the subjacent bone, by which it becomes carious.

If the skin which separates betwixt the angle of the eye and the nose is not corroded through, it is called imperfect ; if it is corroded through, it is a perfect ; and if the subjacent bones are affected, it is a compound *fistula lachrymalis*.

Other disorders about the seat of the *fistula lachrymalis* are confounded with it ; but properly this kind of *fistula* is a corrosion of the ducts of the lachrymal sac ; in consequence of which, pus flows out of them into the great angle of the eye : when the clear lachrymal fluid flows out without a mixture of pus, the disorder is an *epiphora*. The matter of a proper *fistula* flows through the upper puncta for the most part, but sometimes through the lower only, or, in a few instances, through both.

The symptoms are, frequent droppings of tears, and of a purulent matter, especially in a morning, and this without any manifest external inflammation ; by pressure with the finger upon the lachrymal sac, a discharge of pus follows, which is emitted through the puncta lachrymalia ; if this pus is ill scented, the adjacent bones are generally carious ; the same is indicated by a green or blackish colour of the discharged matter, although the smell be not offensive : when the matter is of a bad smell or colour, the probe will readily determine the state of the bone ; for sometimes

times it is not injured, notwithstanding the attendance of the usual signs ; as, on the contrary, there is sometimes a caries when the pus is discharged with every laudable appearance ; though, if there is a daily and considerable discharge of faulty matter, a caries will, for the most part, be formed in the lachrymal bone, the *os planum*, or in the jaw-bone. If the nasal duct is obstructed, it is known by injecting some fluid into it, when, instead of the fluid passing through the nose, it returns by the *puncta lachrymalia* : if there is an encysted tumour, the exterior parts swell with a hardness, and will not yield to the pressure of the fingers, but there is no inflammation ; on the contrary, if the tumour yields upon pressure, there is a lachrymal hernia. Instances have occurred of a *fistula lachrymalis* not discharging pus with the tears, but the pus was discharged alone when the patient was asleep, and this has happened when a caries attended.

If the disease is recent, the habit of body not remarkably faulty, the external skin not corroded, the nasal duct unobstructed, the matter of a good colour and consistence, forbear incision, for compression and mild astringent collyriums will frequently succeed in this mild stage of the disorder ; the matter should be now and then gently pressed out with the finger, by which its acquiring an acrimony will be prevented. But if the duct in the nose is stopped, nothing will succeed but the operation ; in performing which, push the loose skin of the under eye-lid upon the globe of the eye as much as you can ; then cut a passage into the lachrymal groove, which is known by the crackling of the *os unguis* under the pressure of the knife ; then, if need be, introduce a probe, and perforate into the nose : be well aware of getting your knife upon the upper part of the maxillary bone, which you will know by the resistance ; in this

case, go a little farther back with your instrument: further, observe in perforating the os unguis, not to press upon it too forwards, for then you will be obstructed by a part of the maxilla superior, which makes part of the canal wherein the sac is lodged; if you press inwards, there will be danger of injuring the os nasi, or the septum nasi, or the os ethmoides; but if the instrument is passed backwards and downwards towards the uvula, no obstruction will be met with.

For compressing instruments with which to cure the slighter cases, vide Sharpe's Operations, and Gooch's Cases. On the *Fistula Lacrymalis*, vide Sharpe's Operations, *Le Dran's Operations*, Edinb. Med. Essays, vols. ii. and iii. *Pott's Treatise on the Fistula Lacrymalis*, *St. Yves on Disorders of the Eyes*, *Heister's Surgery*, *Bell's Surgery*, vol. iii. *Kirkland's Med. Surgery*, vol. ii. Lond. Med. Journ. vol. i. p. 62. vol. ii. p. 77, and 245. *Wallis's Sauvages's Nosology of the Eyes*, and *White's Surgery*.

Fistula in Perinæo.

This kind of *fistula* is when an opening in the skin corresponds with one in the urethra. It sometimes happens that one opening out of the side of the urethra is attended with several through the skin, but it rarely happens that there are more than one opening through which the urine is discharged from the side of the urethra.

After lithotomy, a puncture of the perinæum, an abscess in the same part near the urethra, a scirrhus in the glandula prostata, &c. a *fistula* is sometimes formed, through which the urine makes its way in part, whilst the rest is passed through the natural passage.

A *fistula* proceeding from the urethra, runs in various directions before it reaches to the external opening of the skin, so that when the external opening is near

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near the anus, it may be taken for a *fistula* in that part; but the discharge of urine through the *fistula* at once distinguishes its seat.

Besides the callosities on the external orifices of these *fistulas*, there are sometimes calculous concretions lodged in their cavities; indeed, so various are the circumstances attending different cases of this kind, that only general rules can be laid down for proceeding by to the cure.

In general, in order to the cure, the outward opening must be enlarged, by cutting away the callous lips, or destroying them by caustics; but it sometimes happens, that this end may be answered by introducing a bougie into the urethra, in order to distend its capacity. Le Dran observes, that though there are several *fistulous* orifices, and several callosities in the perinæum, and when the water passes off in a small stream through the natural passage, the chief remedy will be the introduction of bougies; also that as this canal is enlarged, the external orifices are diminished and healed, and the callosities are softened. Mr. Bell prefers the cure of this *fistula*, by the introduction of a seton. See *Fistula*, above. Also *Le Dran's Operations*. *Bell's Surgery*, vol. ii. Lond. Med. Journ. vol. i. and *White's Surgery*.

FONTANELLA, a diminutive of *fons*. *A little fountain*. In surgery, it is metaphorically used, to signify the small aperture called an issue. The parts where issues are generally made, are, The neck. The arms, near the lowest part of the deltoid muscle, in the interstice between it and the biceps muscle. Above the knee, on the inside of the thigh, where there is a finus, which may easily be perceived by the finger. Below the knee, on the inside of the leg, where generally a sinus may be perceived. On the back; but on all occasions, when these last are formed, they would be more useful and less troublesome, if placed above the knee.

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The method of making an issue is, first to mark the part with ink, then raising the skin with the fore-finger and thumb, push a lancet through the skin, so as that an opening may be made into it, large enough to receive a small pea; the pea being introduced, it is secured by a sticking-plaster and bandage; after which, every twenty-four hours a fresh pea must be replaced, and the old one thrown away.

Some apply a caustic, and let it continue six or eight hours, then cut the eschar and insert a pea.

Instead of common peas, some use wooden or silver balls to promote the discharge; others take the dried oranges, called orange peas, or cut pieces of gentian or orris-roots to a proper size.

FRACTURA, from *frango*, to break. *A fracture.* In surgery, the separation of a bone, from external violence. Fractures are of various kinds, viz. *Transverse, Oblique, and Longitudinal.* When a bone is split into small pieces, it is said to be *splintered.* They are also distinguished by different names; thus, when the teguments remain sound, the fracture is denominated *simple*; when attended with a wound *communicating with the fracture*, it is termed *compound.*

Fractures are discovered by the eye, the ear, and the touch. The symptoms are pain, swelling, and tension in the contiguous parts; a more or less crooked and distorted state of the limb; a crackling or grating noise on the parts being handled; and loss of power to a certain extent in the injured limb. The force by which a fracture is produced, should be particularly attended to, as the symptoms are more or less severe, in proportion as the membranes, muscles, or other soft parts, are lacerated, punctured, or compressed.

The indications of cure—are, to replace the parts of the bone that have been removed from their natural situation; to retain them in this situation, as long as may be necessary; and to obviate such symptoms as

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as may supervene during the cure. In order to replace the parts of the bones, the different muscles connected with it, must be relaxed; this alone will frequently answer the purpose, but when it does not succeed, a slight degree of extension may be employed, by the upper part of the limb being kept firm by one assistant, with his hands placed between the fracture and the contiguous joint, while the under part of it is gently extended by another, observing to keep the muscles still as much relaxed as possible. If there is very great tension and inflammation, they must be removed before the replacing of the bone is attempted.

To retain the bones when replaced, compresses, bandages, and a relaxed state of the limb till the cure is completed, are necessary. The bandage must not be applied with more tightness than is necessary to retain the bones in their situation. In a healthy middle aged person, a simple fracture of the thigh, or bones of the leg, will require about two months for the cure. The humerus and bones of the forearm, about six weeks. The clavicles, ribs, and bones of the fingers and toes, hands and feet, about three weeks. In infancy, the cure is effected in less time; but in old age, the process is more slow.

When pain and tension supervene, astringent applications are necessary. If inflammation is high, local blood-letting is extremely useful, frequent purging is also requisite.

When an union cannot be obtained between the ends of the fractured bones, it may arise from constitutional disease, as scurvy, lues venerea, rickets; from the ends of the bones not having been kept steady till their complete reunion was accomplished; from a portion of muscle, tendon, or ligament, falling in between the ends of the fractured part; and in some cases it proceeds from a bone being broken in different parts, and the intermediate detached pieces

pieces being so small as to prevent them from adhering even when kept in close contact.

When this want of union proceeds from disease in the system, it must be removed by appropriate medicines. If it arises from the bones' not having been kept steady, and in a proper situation, they should be replaced, and the ancient practice of rubbing the ends of the fractured bones together, may also prove serviceable. Sometimes the ossaceous matter, between the ends of the bones, becomes hard and smooth; in this case, no advantage can be expected from replacing them. In fractures of the small bones, this is of little inconvenience to the patient; but in the large bones of the extremities, it may be productive of the total loss of use in the limb. Here then it may probably be removed, by making an incision through the surrounding soft parts, so as to lay the ends of the bones bare, and removing a small portion of them, with a saw, or the trepan; and then treat them as a recent fracture.

When it is in consequence of detached pieces of bone, it is best to remove them, by an incision through the soft parts.

When the reunion is prevented, by a portion of muscle, or ligament, &c. (which may be judged of, by the pain and tension being more severe than usual from the first, by particular movements of the limb, occasioning severe pain and twitchings of the muscles that serve to move it, and the ends of the bone not uniting in the usual time) put the limb into all the variety of postures by which they may be most readily disentangled. If this does not succeed, an incision must be made on the fracture part; and if the ends of the bones have not become smooth, by placing the limb as in recent fracture, a cure may be obtained.

A large effusion of blood round the divided bone, may prevent its re-union. But this can only be when a large vessel is wounded, and throws out such a quantity

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a quantity of blood as to occasion an extensive tumefaction of the limb. The only method of removing it, is by making an incision, and securing the divided vessel with a ligature. *Vide Pott's Works. Gooch's Works. Kirkland's Observations on Mr. Pott's General Remarks on Fractures. Bell, Dease, and Kirkland's Systems of Surgery.*

Fractures of the Cranium.

When from an injury done to the head by external violence, there follows a loss of speech, and of sense, a lethargy, convulsions, &c. as these signs may be the effect of an extravasation of matter on the brain, or of a concussion as well as of a *fracture*, no certain conclusions can be deduced: for certainty, you must proceed to incision upon the part where the injury was received; if, upon making an incision, you find the pericranium loose, you may certainly conclude there is a *fracture*. In examining for a *fracture*, care is required to distinguish it from a suture, particularly the uncommon ones, as those about the ossa triquetrae; however, if upon scalping, we find the pericranium firmly adhering to any part that resembles a *fracture*, we may be assured that there is a suture; but if the pericranium easily separates, the case is a *fracture*. If when the head is shaved, you can feel the pericranium under your finger to be loose, a *fracture* is clearly the case.

When a *fracture* happens on the skull, the trepan is immediately used by some surgeons with a view to obviate or prevent the effects of such a degree of violence, as has fractured the skull; but others of eminence forbid its use, except when a part of the skull is depressed; for the mode of treatment *vide article CONCUSSIO.*

Fractures of the Nose.

Both the bones and the cartilages are liable to be broken. If the bones are broken, the nose appears flat

flat where the *fracture* is; and if the cartilage is the suffering part, the nose leans to one side. If the injury is considerable, the cure is incomplete; and from the nearness of this part to the brain, the danger is considerable; an ozæna, a caries, or a polypus, may be the consequence. In order to a cure, place the patient in a reclining posture, and elevate the depressed parts of the nose with a narrow spatula, or any other instrument of a similar form, replacing them in their proper order with the fore-finger and thumb of your other hand; to prevent their collapsing, introduce a canula, covered with soft lint, and spread with any bland ointment. If any part of the bone is raised above the rest, apply a double headed roller: if there is no wound, a plaster may suffice to secure the whole; and if there is a wound, treat it as if on any other part. If a splinter is so situated as not to be re-united but with difficulty, remove it. When the bones are reduced, they do not easily separate again.

Fractures of the superior maxillary and cheek-bones. When a fracture of these bones stretch toward the eyes, a dangerous inflammation may arise; and if they penetrate the antrum, deformity generally is the consequence. Where there is no wound, the bones may be replaced with the fingers, and where the parts are laid open, a narrow spatula, or forceps, may be employed. A piece of adhesive plaster is the best bandage. If matter collects in the cavity of the antrum, an opening must be made in the most depending part.

Fractures of the inferior maxillary bones. These fractures are easily discovered by the touch; but generally the pain and deformity they occasion, sufficiently indicate them. To replace them, let the patient's head be firmly held a little back, introduce your finger or thumb of one hand into the patient's mouth, and apply the fingers of the other hand on

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the outside, and thus bring the parts together. In case of a fracture on both sides, replace the one after the other, in the same manner. Then lay a thick linen compress over the chin ; let it extend from ear to ear along each jaw, and apply, with a moderate tightness, a four head roller over the whole. Keep the patient perfectly quiet. He must be fed entirely on spoon-meat, and avoid using his jaws in any way. Where only one bone is broken, the patient may be allowed to eat soft meats, and speak with freedom in about three weeks. If both bones are broken, this should not be permitted till about the end of five weeks. If a tooth is situated in the course of the *fracture*, extract it. If any teeth are displaced, not in the course of the *fracture*, return them to their sockets, and tie them to the contiguous teeth. The bandage should not be removed, but when absolutely necessary, except there should be a wound, requiring to be dressed.

Fractures of the Clavicles. Whatever part of the clavicle is broken, the part which joins the scapula, descends mostly below that part which is fixed to the sternum, on account of the weight of the arm. When this bone is fractured, the patient cannot lift up his arm ; it hangs inclined towards his breast, and in a slight motion of the humerus, the *fracture* in the clavicle will be evident to the touch, sight, or ear, or them all. To reduce this *fracture*, it is only necessary to raise the arm, and support it at a proper height ; which is done by a sling round the neck, adapted to the length of the arm, and applied equally to every part of it. Mr. Bell recommends a leather case for this purpose. Vide his System of Surgery, vol. vi. plate lxxxii. fig. 1. It is generally directed in these *fractures*, to keep the patient's head raised, and his shoulders drawn back. But this should, by no means, be generally adopted, as, in some cases, the fractured parts of the bones are kept more exactly

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together, when the head is bent down upon the breast, and in others, while it is raised, with the shoulders.

If the *fracture* is accompanied with a wound, and there are any splinters, they must be removed, but with caution, on account of the vicinity of the sub-clavian artery. The bones are generally united in about a fortnight; but the corresponding arm should be not used till the end of the third or fourth week.

Fractures of the Ribs, are discovered by the seat of the pain, and by pressure of the fingers. In general, the symptoms are moderate; but in some instances, the pain is severe from the first; the breathing is difficult, attended with cough, and sometimes spitting of blood; the pulse is quick, full, and sometimes oppressed. These symptoms, however, only occur when the *fractured* rib is pushed inwards upon the pleura and lungs. In every case of fractured ribs, bleed proportionably to the strength of the patient. If any inequality is discovered, let the patient make a deep inspiration, and by equal and moderate pressure, endeavour to replace it; and to prevent its rising, apply a broad flannel roller, or a leather belt, quilted inside, with cotton or flannel, moderately tight, and let it be worn for several weeks. When the patient is freely bled, and kept on a low regimen, the most severe symptoms will generally subside. But if the oppressed breathing is kept up by air escaping from a *puncture* in the surface of the lungs, or by blood discharged from a ruptured intercostal artery into the chest, or where the pain is continued by the *fractured* rib being forced in upon the pleura, an opening must be made with a scalpel, directly upon the injured part, and if a portion of rib is merely forced inwards, elevate the depressed part, with the fingers, forceps, or a spatula. When the symptoms arise from air or blood in the cavity of the thorax, proceed as directed in article **EMPYEMA**.

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Fractures of the Sternum, should be considered in the same light with similar injuries to the ribs. The symptoms are the same, and if they do not yield to copious bleedings, and the antiphlogistic regimen, an extensive incision must be made, and the depressed part raised, by a scalpel or a levator; if there be an opening, that will admit an instrument; if not, an opening may be made with the trepan. The practice of laying the patient over a barrel or drum is dangerous, by pressing the lungs with additional force against the depressed portion of bone. After the operation, the sore must be treated in the usual way. The operation should be performed with great caution.

Fractures of the Vertebrae.

When any of the vertebrae are fractured, without affecting the spinal marrow, then there are only the posterior apophyses, or acute tubercles injured, and they are not dangerous. When these parts only are fractured, replace them with your fingers, and apply on each side the spina dorsi, narrow compresses moistened with spirit of wine, and secure them with pasteboard splints, and the napkin and scapulary.

Fractures in these parts are easily known by the pain there, as also on slightly touching them.

If the transverse apophyses which tend towards the cavity of the thorax are broken, then the heads of the ribs which are inserted into them will likewise be broken, and much danger attends this case.

When the body of a vertebra is broken, the spinal marrow is injured; then the parts of the arms, viscera, or legs, which are below them, become immediately motionless, and death is sooner or later the consequence. In this case, lay the injured part bare, elevate the fragments which press the medulla, and if loose, extract them; then treat the wound in the usual way.

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Fractures of the Os Sacrum. These fractures are discovered by the pain perceived in the part, and by the touch. Endeavour to reduce the fragment with your fingers; but if it is depressed inwardly, pare the nail of your fore finger pretty close, then grease and introduce the finger into the *intestinum rectum*, and thus the depressed part may easily be replaced; this done, the T bandage may be applied over a proper compress; the patient must be directed to keep in bed for two or three weeks, and when he turns from one side to the other, let him turn over his belly; when he rises, the properest seat will be a bottomless chair.

Fractures of the Osseja Innominatea. If the injury is deeply seated, place the patient in the posture in which he feels himself easiest, and keep him in that situation till the bones are probably united. The application of the bandage depends entirely on the practitioner's judgment.

Fractures of the Scapula, are discovered by the seat of the pain, by the feeling on pressing the injured parts, and by the stiffness and immobility of the corresponding arm. To replace the bones, the muscles connected with the injured bones must be relaxed. Raising the head and shoulders relaxes the muscles of the back, and by supporting the humerus, the deltoid muscle will be sufficiently relaxed to replace any fractured portion of the scapula. To retain them, perhaps, a long roller is the best application. Keep the head and shoulders supported, and the arm suspended.

Fractures of the Humerus. Oblique fractures here, are often evident to the sight. Transverse fractures are discovered by the pain, inability to move the arm, and a grating noise being heard on handling the part. To accomplish the reduction, relax the muscles of the arm, by moderately bending the elbow, and raising the limb to nearly an horizontal direction; but not so forward

forward as to stretch the latissimus dorsi, inserted into the back-part of it; or too far back to stretch the pectoral muscle. In this way the fractured ends are generally replaced; but if extension should be necessary, let one assistant grasp the arm between the fracture and the shoulder, and another above the joint of the elbow. Then apply a couple of splints covered with flannel, or tow covered with old linen, one along the whole outside of the arm, and the other on the inside, secure them with a flannel roller, moderately tight, and support the fore-arm in a sling. The bone will unite in about a month; but the limb should not be used till about the end of the sixth or seventh week.

Fractures of the Bones of the Fore-Arm. The fore-arm has two bones, viz. the radius and ulna. *Fractures* here are discovered by the sight, touch, and ear: by the touch and sight, by moving the hand of the affected arm inward and outward; though a fractured ulna, from its inability to support the joint, will shew itself sooner than that of the radius: the ear discovers a grating noise, if the elbow is held steady, and the hand is moved inward and outward. To reduce a *fracture* of either of these bones, relax the muscles of the arm by bending the joint of the wrist and elbow; and let two assistants gently extend the limb, by one grasping above the fracture, and the other beneath it. The bones replaced, apply a splint defended with flannel or tow, of sufficient length to reach from the elbow to the tops of the fingers; and of such a breadth as to incase more than one half of the arm and hand, along the ulna; and another not quite so broad in the course of the radius, and secure them with a flannel roller, or a twelve tailed bandage, which is preferable; and let the arm hang in a sling. In applying the splints, the palm of the hand must be turned towards the breast.

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If a dislocation of the wrist attends this *fracture*, a stiff joint may be expected.

When the olecranon only is fractured, keep the fractured parts in contact, the fore-arm extended, and preserve it in this situation, by a long splint from the middle of the Humerus to the tops of the fingers, secured by a roller. Let the arm hang by the patient's side, to which fix it by one or two straps. Remove the splint and bandage every eighth or tenth day, and move the fore-arm slowly backward and forward, to prevent a stiff joint.

Fractures of the Bones of the Wrist. These bones are seldom broken, and when they are, they do not unite readily. After replacing them, bleed freely from the injured part, to prevent inflammation, which generally takes place here to a very considerable extent, and frequently produces ankylosis. The hand should be supported with splints as directed in Fractures of the Bones of the Fore-arm.

Fractures of the Bones of the Hand. Replace them with as much exactness as possible, and apply the splints, as in case of Fracture in the Bones of the Fore-arm.

Fractures of the Fingers. When the contusion of the hand or fingers is very considerable, amputation is most adviseable; but if you can save the part, proceed as follows: having placed the fractured bone properly, and reduced the fragments, apply a piece of firm pasteboard exactly fitted to it, and softened in water till it is moulded to the form of the part, and roll it up with a narrow fillet to the next finger. Begin the bandage about the wrist, carry it over the back of the hand to the finger; and if more fingers than one are fractured, carry it round each separately, then round them all; and place the hand in a sling. A large splint of pasteboard, or thin wood, glued on leather, should also be applied on the inside of

of the hand, the fingers stretched on it, and secured by a roller over the whole.

Fractures of the Thigh-Bone. Every part of this bone may be fractured; but the middle is more generally injured; and next to this, the neck of it. These are distinguished in the under part by a grating noise, a shortness of the limb, if the fracture is oblique; or if the ends of the bone have been displaced in case of a transverse fracture, by much pain, and the limb being unable to support the body. If the fracture is in the neck of the femur, the leg is shortened, sometimes several inches, the trochanter is higher than the trochanter of the other thigh, and the knee and points of the toes are turned inwards.

To reduce the fracture, relax the muscles, by making the thigh form an obtuse angle with the body, and moderately bending the joint of the knee. This done, in most cases, the bones are easily replaced, by a couple of assistants extending the limbs, one securing the upper part, and the other gently drawing the lower. Fractures in the neck of the bone are replaced in a similar way. Considerable extension is, however, sometimes necessary. To retain the bones, two splints, well defended, must be applied, one to reach from the top of the hip-joint, to below the knee, and sufficiently broad to cover more than one half the thigh; the other to reach from the groin to a little below the knee. Of the splints, the longest laid upon a twelve tailed bandage, is to be placed upon a thin pillow nearly as long as the thigh. The patient being laid on a firm hair matrass, his knee moderately bent, and the bones accurately set, place the pillow with the bandage and splint above it, so that the splint may reach from the hip-joint along the outside of the thigh to the knee. To preserve this posture, let the patient lay turned somewhat towards the affected thigh; and the knee and leg raised rather higher than the body. Now place the

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short splint along the inside of the thigh, from the groin to the knee, and apply the bandage, previously placed beneath the other splint, with such a degree of tightness, as to make an equal moderate pressure over the whole thigh. It will not be necessary to remove the limb till the cure is complete (which in healthy persons requires about six weeks) unless any untoward symptoms arise. The limb should not be used for about nine or ten weeks. At about the end of a fortnight, some little alteration should be made in the position of the body and knee.

Sometimes the pain, swelling, and inflammation are so great as to prevent the application of bandage. In this case, they must be relieved by the usual remedies, and the cure must proceed, with the risk of the limb being somewhat shortened, by the ends of the bones passing over one another.

Fractures of the Patella. When a small fragment of the patella is drawn upwards, if the patient is fat, it is not very easy to discover this case. In searching to know whether or no the patella is broken, do not bend the knee, because you separate the fragments thereby farther from each other, and occasion unnecessary pain. This bone is generally broken transversely, the lower part remains fixed at the knee; but the upper is drawn by the muscles on the fore-part of the thigh. When the case is discovered, lay the patient on his back, extend his leg, and gently press the muscles above the fractured part downwards, until the fragments of the bones approach within an inch of each other; in this situation, retain the leg in a state of extension, by applying a long firm splint of timber, well defended, beneath the thigh and leg, from the upper part of one to the extremity of the other, and secure the limb to it by four or more straps. Cover the joint with a large pledgit of Goulard's cerate, and support the bed-clothes with a hooped frame. If the divided parts separate to any considerable

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derable distance, they must be replaced, and retained with bandages. In longitudinal fractures, this is easily accomplished by very moderate pressure, either with the common uniting bandage, or with slips of leather spread with glue, or adhesive plaster. In transverse fractures, it cannot sometimes be effected; but as cures are nevertheless obtained in such cases, much force must not be employed. At the end of a fortnight, the bandage should be removed, and every second or third day after, the limb should be moderately bent to preserve the motion in the joint.

A separation of the ligament, or tendon of the rectus muscle, will put on nearly the same appearance as a fractured patella. It is cured by the same treatment.

Fractures of the Bones of the Legs. In fractures of the leg, often only one bone is broken; but a fracture of both is more frequent. In this case, the seat and direction are easily discovered. But when only one bone, the discovery is more difficult. One bone remaining entire, confinement only will cure the fractured one. The treatment of a fractured leg is, in general principles, the same as directed for a fractured thigh-bone. By bending the knee, and slightly extending the foot, the bones are easily replaced. This done, place the patient so that the injured leg may, with ease, be laid on its side, with the knee bent; then apply the splints and the twelve tailed bandage. The splint on the outside must reach from a little above the knee to beneath the ankle. When the patient cannot lay upon his side, he may lay upon his back, and the limb placed upon the gastrocnemii muscles, with the toes upwards; remembering to retain the curved position of the leg; this is done by raising the leg, and supporting it upon a frame at a proper height above the level of the body.

What is commonly called the rising end of the bone,

bone, and most frequently appears in fractures of the leg, is owing to the inferior portion being dragged out of its situation by the weight of the foot, and the contraction of the muscles on the back part of the leg. This we must endeavour to raise, and then support it in that situation ; but never apply bandages to keep down the superior portion, as it never rises out of its natural situation.

Fractures of the Bones of the Foot and Toes, are distinguished like fractures in any other parts. The treatment is the same as in similar injuries to the hands and fingers.

Compound Fractures,

May be produced by the external violence which fractured the bone, and by the bones, in cases of simple fractures, pushing through the integuments ; but however produced, the consequences resulting from them, are nearly similar. The admission of air to the fracture, adds considerably to the risk attending it. The first object in compound fractures, is to restrain the hæmorrhage, by the tourniquet. The next is to consider, whether you can attempt to save the limb, or whether you will proceed to immediate amputation. Some practitioners consider amputation indispensably necessary ; while Mr. Bilguer, of Berlin, says it is scarcely ever requisite. Mr. Bell says, he is convinced it should never be advised in private practice, unless the bone is greatly shattered, or the surrounding soft parts completely destroyed, but in the navy and army, he thinks the limb should be immediately amputated. When amputation is not performed immediately, or soon after the injury is received, it is not admissible for several days. Afterwards it may be necessary, 1st, from hæmorrhages, that the tourniquet cannot check, nor the arteries be readily secured by ligatures ; 2dly, from extensive mortification ; and 3dly, when the bones do not unite, and the patient

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is declining from the copiousness of the discharge of matter.

In the treatment of compound fractures, our object is the same as in those of a simple nature. To replace the bones, and to retain them, all extraneous bodies must be removed, as well as those pieces of bone which are not likely to unite with the rest, to which end, if necessary, the opening must be enlarged with a scalpel. If a sharp point of a bone protrudes through the integuments, remove it with the bone forceps; but if the protruded portion of bone is broad, dilate the wound, and replace it. Should it be necessary to cut into the substance of contiguous muscles, let it be in the direction of their fibres. Should any artery be cut, secure it with a ligature; the extraneous bodies removed, and the protruded bone replaced, the *fracture* must be reduced in the same manner as a simple fracture. This done, lay a pledgit of soft lint, spread with wax and oil over the whole, then place the limb upon a firm splint, in a relaxed posture, and apply the many tailed bandage. Recollect the limb must be in such a posture, that the wound may be dressed without moving it, which should be at least once a day, or oftener, if the discharge is great. To prevent inflammation, bleed according to the strength, both topically and from the arm; direct laxatives, and every other part of the antiphlogistic course. If pain, administer opiates. In case of inflammation, the milk and bread poultice is useful; but when the matter is discharged in great quantities, lay aside the poultice, dress the sore with gentle astringents, and support the patient with bark and wine. Sometimes, to give the matter free egress, it is necessary to make a counter opening, but this may generally be obtained by putting the limb in a proper posture. Sometimes, a loose piece of bone will keep up an excessive discharge; this must be removed either at the sore, or by a counter opening. If the inflammation terminates in

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in a gangrene, proceed to amputation immediately. Vide *Aikin's Treatise on Fractures*. *Pott's General Remarks on Fractures*, and *Kirkland's Observations on the same*. *Gooch's Cases and Remarks*. *Bell's and White's Surgery*.

FURNUNCULUS, from *furo*, to rage. A boil or bile. It is a phlegmonous humour which commonly terminates in a suppuration of a peculiar kind. It is a variety of the phlogosis phlegmone. It generally suppurates spontaneously, and breaks open at first on its top, or the most pointed part, when some drops of pus, like that from an abscess, comes out; after which the germ, or what is commonly called the core, is seen; this core is a purulent substance, but so thick and tenacious, that it appears like a solid body, which may be drawn out in the shape of a cylinder, like the pith of elder, sometimes to the length of an inch. The emission of this core is usually followed by the discharge of a certain quantity of liquid matter, spread through the bottom of it. As soon as this discharge is made, the pain entirely ceases, and in a few days the swelling disappears. The opening commonly heals of its own accord; if not, it may be assisted.

Suppuration is the best method of removing this kind of tumour, for if repelled, it almost as certainly returns on some other part.

They have been considered by some, as habitual; when so, they should be prevented by the use of alterative medicines.

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GANGLION, *in surgery*, is a moveable tumour, formed any where about the tendons of muscles, and the ligaments; the most frequent situation is about the carpus; but whatever part of the body it is in, it is near the skin, and is not attended with any considerable uneasiness to the patient. They are formed of lymph, which is secreted within the *vaginæ* of tendons; they are different in their form, consistence, and other appearances, but they never suppurate. Mr. Sharp reckons these tumours among those encysted ones, called *meliceris*. For the most part, the matter of a ganglion resembles the white of egg. Dr. Cullen ranks it as a genus of diseases in the class *locales*, and order *tumores*.

As to the cure, Mr. Sharp assures us, that he has frequently succeeded, by making an incision through its whole length, and at the same time dividing the ligament of the wrist, and afterwards dressing as in wounds in general. Mr. Warner gives two instances of his successfully extirpating them: he observes, that the objection from danger of wounding the subjacent tendon or ligament, is of no weight, since the accident can be generally avoided, and, should it happen, the disaster may be easily healed, as happens daily in wounds of this sort; he recommends the cutting away part of the cyst, and then digesting the rest away. *Vide Sharp's Operations in Surgery*, in the chapter on encysted tumours. *Warner's Cases in Surgery*. *Heister's Surgery*, and *Bell's Surgery*, vol. v.

GASTRORAPHIA. *Gastroraphy*, from *gaster*, a
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belly, and *παρη*, a *future*. In strictness of etymology, this word signifies the sewing up of any wound of the belly; yet in common acceptation, it implies, that an intestine is wounded as well as the belly. This operation is useless in small wounds, but necessary in large ones. The best method is to pass double ligatures in one needle, in order to include the rolls at one end, and be tied upon them with bow knots on the opposite side, which gives an opportunity of straightening and loosening the knots at pleasure. After passing in as many ligatures as seems necessary, bring the lips of the wound gradually together, and keep them so until the knots are tied.

As to the operation of stitching the bowels, it can only take place where they fall out of the abdomen, so as to see where the wound in the intestine is, or how many wounds there are, and in some cases of *Bubonæcele*. *Vide Sharp's and Le Dran's Operations.*

GENU, the Knee. It sometimes happens, that pieces of cartilage, or bone covered by cartilage, are found loose in the cavity of the joint of the *knee*. These are of different sizes. Some of them are as large as common garden beans. They are generally flat, oblong, having their edges rounded. It is seldom that there are more than one of these loose cartilages in a joint; but sometimes there are two. Mr. Cruikshank says, that he formerly considered them as belonging to the patella; and that, like the *osseæ triquetra* in the skull, they owed their origin to distinct points of ossification. But having since found one entirely cartilaginous, and another which, though bone covered by cartilage, was formed on the lower end of the femur, and this convinced him of his mistake. In the last mentioned case, Mr. Cruikshank says, that there was a cavity in the lower end of the femur, corresponding to the loose bone, shewing that they had been connected with one another; though, as both surfaces were nearly smooth, the manner of

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their connection was not evident. He supposes that, during their growing, these cartilages and bones are connected to the neighbouring parts by vessels; and that, when either their determined growth is finished, or their size is too large for the easy motion of the joint, they become loose. When they become loose, the synovia, from the irritation they induce, is secreted in greater quantity; the capsular ligament becomes distended, the *knee* appears swelled, a degree of stiffness takes place in the motion of the joint, with more or less of external inflammation. There is also the distinct feel of a fluid underneath; and the loose bit of cartilage gets frequently above the condyles of the femur, on the out or inside of the *knee*, and may be laid hold of with the thumb and finger through the integuments. When the patient has walked much, the synovia is sensibly increased, and on remaining more quiet, for two or three days, is as sensibly diminished. The symptoms are sometimes so mild as not to need an operation, but at other times it is the only expedient for relief. Mr. Cruikshank here observes, that much seems to depend on the surgeon, whether this operation shall be a dangerous one or not. Mr. John Hunter recommends the moving them by incision; but thinks the particular spot where the operation is to be performed, as well as the manner of operating, deserve the greatest attention. There is a part within the cavity of the joint of the *knee*, which receives the basis of the patella, during the extension of the leg. It partakes more of the nature of cellular membrane, than capsular ligament, and lies under the lower extremities of the vasti and crureus muscles, before they are inserted into the patella. Mr. Hunter proposes to lay hold of the cartilage or bone, and cut down upon them at this place; the incision, he thinks, should be no larger than just to allow of their being easily thrust out. A stitch or two is then to be passed

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through the divided integuments, and the lips of the wound, by these means, are to be brought together. These stitches, however, must not pass into the cavity of the joint; instead of uniting the parts in this case, they would act as setons, and produce inflammations in place of preventing it. If possible, heal the wound by the first intention; a piece of sticking plaster, with proper bandage, and position of the joint, may even make stitches in the integuments unnecessary. The circumstances which the operator has most to avoid, Mr. Hunter says, are the exposing the cavity of the joint too much; the lacerating or bruising of the capsular ligament; the not properly closing the orifice in the integuments; or the employing a blunt or dirty instrument in the dividing them. All, or any of these circumstances, he thinks, will produce inflammation in the joint, and render the operation exceedingly dangerous. But in tolerably sound constitutions, the operation now recommended, performed with the necessary precautions, he is convinced, is as safe a one as most operations in surgery. When the cavity of the joint has inflamed, the danger, he owns, is very great. Ligament and cartilage, the substances composing joints, have fewer vessels than any other parts, perhaps, of an animal body; they inflame, suppurate, or go through the usual processes of parts under irritation, with greater difficulty; and, when they have gone through them, the consequences are generally destructive of the ordinary intentions of these processes; the joint stiffens, and is destroyed, instead of being recovered. Vide Mr. Cruikbank's Letter to Dr. Duncan, in the Edinb. Med. Commentaries, vol. iv. p. 342, et seq.

GONORRHœA, from *γόνη*, seed, and *ῥέω*, to flow, is an involuntary efflux of seminal juice. Dr. Swediaur observes, that this name is improperly applied to the disease known by it. He proposes, if a Greek word is necessary, to name it *Blennorrhagia*, from *βλεννών*, mucus, and *ῥέω*, to flow, i. e. *mucifluxus activus*; and thus he distinguishes it from the real gonorrhœas;

norrhœas, and from gleets, to which latter he gives the name *blennorrhœa, mucifluxus passivus*, i. e. without phlogistic symptoms.

Some reckon three species of this disorder: 1st, A simple *gonorrhœa*, also called a benign *gonorrhœa*, and a gleet. 2dly, A virulent or venereal *gonorrhœa*; improperly so called, from its resemblance to the preceding. 3dly, An involuntary efflux of a whitish fluid from the urethra, in consequence of a venereal *gonorrhœa*. Dr. Cullen places this genus of disease in the class *locates*, and order *apocenoſes*. He distinguishes four species: 1. *Gonorrhœa pura*, when, without venereal engagements, a purulent discharge is observed from the urethra, without dysuria, &c. 2. *Gonorrhœa impura*, when, after impure coition, there is a purulent discharge from the urethra, with heat of urine, &c. 3. *Gonorrhœa laxorum*, when there is a pellucid discharge from the urethra, without erections of the penis, but with venereal thoughts while awake. 4. *Gonorrhœa dormientum*, when during sleep, but, in dreaming of venereal engagements, there are erections of the penis, and consequent seminal discharges.

The benign *gonorrhœa* is defined by Dr. Fordyce, in his Elements of the Practice of Physic, part the second, to be “an increased secretion from the mucous glands of the urethra, without infection.” The matter discharged is whitish and mild, producing no excoriation or other disorder on the parts through which it passes, or on which it falls.

The principal cause is a weakness in the parts, which are the seat of the disorder; occasional causes, are acrimony in a cacoehymic, scorbutic, or arthritic habit, violent or too frequent purging, violent exercise, too frequent coition, cold, excess of spirituous liquors, &c.

Dr. Swediaur well observes, that the virulent *gonorrhœa* is a local inflammation, attended with the discharge of a puriform matter from the urethra in men,

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and from the vagina in women; accompanied with a frequent desire of making water, which occasions a scalding, or pricking and burning pain, during the time of its passage; and arising from any stimulus applied to these parts, provided it be sufficiently strong. Sometimes, by the violence of the irritation, the secretion of mucus seems to be totally suspended, or at least considerably diminished, so that no discharge, or only a very small one, takes place, though the other symptoms rage with the utmost violence. In this case, the disease has obtained the very improper name of *gonorrhœa sicca*. He adds, though the matter (i. e. of the discharge) has a purulent appearance, it is not a real pus; it is only the mucus of the urethra or vagina, secreted in a larger quantity than usual, and changed in its colour and consistence by the stimulus applied to the parts; like the mucous discharge from the nose or lungs, on taking cold, where the mucus assumes nearly the same appearance. That the discharge from the urethra, &c. is only an increased discharge of the mucus of the parts, has been some time supposed, but is first rendered undoubted by Dr. Stoll, of Vienna, which evidence Dr. Swediaur has inserted in his publication on this subject. It is as follows: "Dr. Stoll had, about the year 1782, the instructive opportunity of dissecting a man who died while labouring under a virulent *gonorrhœa*. On opening the urethra carefully, he found its internal surface preternaturally red; two of the lymphatics preternaturally white and enlarged; and the puriform matter oozing out from the internal membrane, especially at the lacuna, where the seat of the disorder was, without the least appearance of an ulceration or excoriation."

When this complaint is the consequence of a venereal taint, the matter of the discharge is commonly adhesive and whitish, and capable of communicating infection, though the inflammatory symptoms are entirely

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entirely carried off; though some say it is incapable of communicating infection, even when the inflammatory symptoms are not entirely removed. Vide *LUES VENEREA*. When it takes place from any other cause, it begins with a running, nearly similar to that in a venereal *gonorrhœa*, but generally less in quantity, and is not attended with so much inflammation, and is never infectious. In both cases, the inflammatory symptoms may, by exposure to any of the causes, be increased to as great a degree as when there is infection; but they go off of themselves in a few days, and sometimes the running with them, The running sometimes ceases of itself in a week or two; sometimes it continues for years without any detriment to the patient; and now and then a case occurs, in which the patient is much weakened by it; for when it occasions involuntary emissions of semen, it may be fatal.

It is the most obstinate after a venereal taint, in phlegmatic habits, and in those who, when young, were subject to catarrhous defluxions; for the fibres of such persons are very lax. Sometimes it resists all means, and at last departs spontaneously.

The indications of cure are, 1. To destroy the venereal virus. 2. To defend the parts from its acrimony. 3. To abate the irritation which it occasions.

To answer these ends, oleous and mucilaginous injections are well adapted, particularly if they have opium, and the mildest mercurial preparations combined with them.

A mild regimen, in all respects, is the most proper; mucilaginous drinks, as the almond emulsion and such like, should be plentifully drank; and, if required, an anodyne may be given at bed time. Much and strong exercise, and external cold, are to be avoided. Those of a less robust frame may be less sparing in their diet, and be not so abstemious with respect to cordial liquors.

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If the venereal taint gave rise to it, and mercury has not been used, or used in an undue quantity ; or if there is any suspicion of any remaining infection, the safest method is to begin the cure by a mercurial course.

If symptoms of an inflammatory fever appear, bleeding may sometimes be useful ; but, in general, more service will be derived from topical evacuations of blood, and from emollient and sedative fomentations and poultices. Dr. Swediaur observes, that, on the other hand, when the patient is of a weak and irritable habit of body, the discharge is very thin and copious, attended with violent pains and quick pulse ; the cort Peruv. given internally, according to circumstances, with or without opium, is the most useful administration ; and that opium, given in emollient glysters, is sometimes particularly useful in these cases : it allays or prevents the frequent painful erections, the return of which, should be prevented as much as possible.

To prevent the more violent symptoms, the patient should, from the beginning of the disease, wear a bag-truss, or other means, to keep the scrotum supported and warm.

Neutral salt, and other purgatives than those which keep the bowels lax, are injurious.

When the symptoms are more exasperated, as when the heat of urine is great, a tension is perceived in the length of the urethra, the urine is only passed by a few drops at a time, erections are frequent, pains shooting through the urethra, streaks of blood passing with the urine, or other signs of ulceration : in this situation, besides what is already recommended, mercurial frictions will be necessary along the perinæum, and the inside of the thighs.

The same treatment will be proper when the discharge, during the inflammatory stage, is suppressed, and a hernia humoralis is threatened, or has taken place.

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If a scorbutic, or other acrimony is the cause, allay it at least before strengtheners are begun with.

When no circumstance, besides a weak habit, requires our notice, an infusion of the bark in red wine, may be given to two ounces three times in the day ; and other means of strengthening the general habit, may be used.

Sometimes it happens, that the cold bath increases the running ; but when there is neither plethora, nor a bad habit of body, nor any other contraindication, the patient may go into the bath every morning and evening ; and after each emersion he may go into bed ; and, whilst there, he may drink two cups of some warm infusion, by which the humours will be derived to the skin.

Resinous astringents, such as the bals. capivi, &c. may be given three or four times a day ; but in inflammatory habits much caution is required, to avoid the exciting any new degree of inflammation. Vide *Swe-diaur* on Venereal Complaints, and *White's Surgery*.

GUTTA ROSACEA. Little red dry drops, or fiery tubercles about the face and nose. Though persons addicted to drunkenness, are mostly subject to this disease, it sometimes attacks the abstemious, after drinking cold water when hot. The cause seems to be in the liver. In general, temperate diet will remove it ; but if the patient has been accustomed to generous diet, the change must not be suddenly made. Antimonial medicines, and mercurial purges, are useful. Topical applications must be used with great caution. Vide *Brooke's Practice of Physic*, and *Med. Obs. and Inq.* vol. i.

GUTTA SERENA. Vide article *AMAUROSIS*.

Gotthlieb Richter says, I have lately restored several persons to sight, who laboured under *Gutta Serena*. In all these cases, the cause seemed to be seated in the abdominal viscera, for I cured them all by means of medicines

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medicines which dissolve obstructions in the viscera. The pills he made use of, were the following:

R Gum. Ammon. assafætidæ, sapon. venet. valerianæ, summetat. arnic. 3 ij. antimon. tartaris. gr. xvij. ft. pil. pond. gr. ij. quarum sum. ter quotidie xv. The doses of these pills were gradually increased, and vomiting occasionally produced by the antimon. tartaris. Vide *Gottlieb Richter's Medical and Surgical Observations*, p. 254. et. seq.

Mr. WARE recommends the following powder to be snuffed up the nostrils, once or twice a day, as a remedy in **GUTTA SERENA**:

R Hydrargyr. vitriol. gr. j. pulv. glycyrrhizæ gr. viij. m.

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HÆMORRHAGIA, from *άινα*, blood, and *μετω*, to break forth, or *τυγχανει*, to break forth. There are but few *hæmorrhages* (not owing to external violence) which would prove fatal, if no means were used to stop them; hence many medicines have, at different times, had the repute of being specifics. Periodical and critical *hæmorrhages* have generally their cause in the primæ viæ, and their properest remedies are such as those that purge, and render the bile temperate, of which kind are the natron. vitriolat. or the ol. ricini ver, which is preferable.

In acute diseases, when there are small discharges of blood which suddenly cease, they indicate at least a tedious disease. *Hæmorrhages* are salutary, when no inconvenience is observed from them, for then the habit is one way or other relieved. When this accident happens from disordered viscera, especially if the liver, spleen, or lungs, are the parts affected, the consequence is generally fatal, by producing a drop-sy, a hectic, &c.

Where topical applications cannot be admitted, the best remedies are, a cool air, rest, a sparing mild diet, given in small quantities at a time, acidulated drinks, nitre, natron. vitriolat. and opiates in small doses; Hoffman adds to these, frictions of the feet, and bathing them in warm water. If the disorder is symptomatic, the cure depends chiefly on the removal of the original disease. Persons rarely die of *hæmorrhages*, unless the large arteries are divided; but

but those who suffer a great loss of blood fall into a deliquium, and then the *hæmorrhage* stops: if the patient is thus left dead, as it were, in a moderately warm room, give only a small quantity of flesh broth frequently, and thus drooping life may be supported, until the divided vessels contract. Those who endeavour to recover persons from the deliquiums which *hæmorrhages* occasion, by giving cordial liquors, do not restore the lost quantity of fluids, but increase the action of the vessels on their remaining contents, by which more blood is still discharged: again, if a large artery is not wounded, or such a one as being affixed to a bone, cannot retract itself and close, the orifice, by the elasticity of the vessel, is contracted and concealed within the lips of the wound. Dr. Hunter recommends, to leave all internal *hæmorrhages* to nature; and says, that life is safe if the patient is permitted to faint.

As to external *hæmorrhages*, which admit of topical assistance, it may be observed, that almost all the blood discharged from wounds, are discharged from the arteries; for pretty large veins, when divided, discharge but little blood. Sometimes the bleeding vessel admits of a compress on the ruptured or wounded part; but when this cannot be effectually applied, the needle and ligature are the properst means of relief. *Hæmorrhages* in the mouth sometimes require the actual cautery; but in other cases, escharotics are not adviseable. Vide WOUNDS of the arteries.

HÆMORRHAGIA NASI. *Hæmorrhage, from the nose.* By Dr. Cullen, termed *Epistaxis*. In most cases, by a proper application of cold, a temporary stoppage is put to this discharge. The patient should be placed in a large apartment, with a current of cold air passing through it. His food and drink should be cold. His face frequently bathed, and even immersed in cold water, with a proportion of vinegar. A strong astringent gargle should be used from time to time,

time, and compresses, wetted in the same liquid, should be applied over the nose. In bed, he should be lightly covered, and lay with his head as elevated as possible. When this treatment is ineffectual, compression upon the ruptured vessel becomes necessary. Sometimes a dosil of lint, introduced into the bleeding nostril, will be sufficient; but when this fails, the following method must be adopted: Introduce a hollow curved tube, with a piece of catgut or firm waxed thread in it, into one of the nostrils, and convey it into the throat; then, with a pair of forceps, draw the ligature out at the mouth; now withdraw the instrument, and introduce another ligature of the same kind into the other nostril. A bolster of soft lint, or a piece of sponge, of sufficient size to fill up the posterior nares, is now to be firmly tied to the two ends of the ligatures hanging out of the mouth, and the opposite ends at the nostrils must be pulled forward, till the bolster of lint or sponge is firmly applied to, and fixed in the upper part of the pharynx. This done, a compress of lint must be applied to each nostril, and fixed in this situation, by tying the two ligatures over it. The patient after this should be put to rest, and the bolsters must be continued a sufficient time to admit of the ruptured vessels' healing. Vide *Bell's Surgery*, vol. iv. and *White's Surgery*, p. 263.

HÆMORRHOIDES, from *άίμα*, blood, and *εἰναι*, to flow. The *hæmorrhoides*, or *piles*. A discharge of blood from the hæmorrhoidal veins is thus named, and is also called the *open*, or *bleeding piles*: when, instead of this hæmorrhage, there are large tumours, which are generally painful at the lower part of the rectum, they are called the *blind piles*. Dr. Cullen places this genus of disease in the class *pyrexiae*, and order *hæmorrhagia*. He distinguishes four species: 1. *Hæmorrhoidis tumens*, when there are external swellings on the edge of the anus. 2. *Hæmorrhoidis procidens*,

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when the piles are external, and caused by a bearing down of the anus. 3. *Hæmorrhois fluens*, when the piles are internal, without external tumour, or bearing down of the anus. 4. *Hæmorrhois cæca*, when there are pains and tumour about the anus, and no discharge of blood.

From dissections, this disease seems to be an ecchymosis in the cellular membrane of the lower part of the rectum, from the extremities of the neighbouring vessels: if this be true, it accounts for the great loss of blood this way, without loss of strength, for it is gradually emptied into the ecchymosis, and it is from thence that it pours out so seemingly plentifully.

There is seldom much discharge from the external haemorrhoidal vessels, but they readily admit of varices being formed in them, which are painful. The internal haemorrhoidal vessels not only discharge a large quantity, but when suppressed, those disorders are generated which arise from disorders of the liver, spleen, pancreas, mesentery, and intestines.

Near the extremity of the intestinum rectum, internally, are little jagged processes, somewhat like the carunculæ myrtiformes in the vagina, which are the seat of the internal, as well as of the external piles.

Those who are of a lax, spongyous habit, and disposed to feed; who eat heartily, and drink freely; who indulge in ease; who are habitually constive, &c. are the most subject to this disorder.

The piles often affect pregnant women, from the pressure of the uterus on the haemorrhoidal veins. In all other cases, the immediate cause is a difficult circulation of the blood through the haemorrhoidal veins, in consequence of their perpendicular situation, and want of valves. The discharge happens when the extremities of the vessels in the intestinum rectum are so distended by the accumulated blood, as to be returned. Whatever generates a redundancy of blood,

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retards its passage through the ramifications of the vena portæ, or invites it in too large quantities to the hæmorrhoidal veins, disposes to this complaint. Aloes, garlic, jalap, and even rhubarb, in some constitutions, bring on the piles, by deriving an afflux of humours to their seat: aromatic food, sweet and strong wines, anger, grief, or any violent commotion of body or mind, do the same.

The blind piles appear in the form of tubercles of different sizes, from that of a pea, up to a pullet's egg. They are distinguished from other tubercles about the anus, by their colour and resistance to the touch, for they appear livid or black, and, when pressed by the finger, they feel like a bladder filled with water; which circumstances are not observed in other tubercles in the anus, or about it: some of these are soft and not painful, others are hard, painful, and inflamed. This kind of piles generally appear in costive habits that are plethoric, and in women that are pregnant, or after difficult labour, or suppressed menses. If these blind piles burst, they form the open, or bleeding piles. The blind piles sometimes cause such a spasm in the anus, as renders sitting difficult, and the administration of a glyster impossible; and sometimes give rise to a fistula. The eruption of the hæmorrhage in the open piles, is often preceded by spasmodic strictures, flatulencies, pain about the os sacrum, and various other symptoms, which disorder the whole frame. In the beginning of excessive discharges, the blood is black and grumous; after this, it appears of a redder colour, and after this, the discharge is serous and mucous, resembling the white of egg: at length the strength is impaired, the pulse is languid and trembling, and a cachexy, an hectic fever, or a dropsey, comes on, and the case becomes dangerous.

The piles are not always readily distinguished; and some attention is sometimes required, lest they

be confounded with the cholic, or a dysentery, or other tumours about the anus.

When the cause is a tumour in the liver or spleen, a fatal atrophy, or hectic, is the consequence. Excessive hæmorrhoidal discharges often terminate in dropsies; but if they succeed a dropsey from an indurated liver, death is at hand. On the contrary, moderate discharges from the hæmorrhoidal veins give great relief to the constitution that is oppressed by the gout, asthma, ischiatric pains, diseases of the kidneys or bladder, hypochondriac, hysterick, or maniac disorders, &c. Only those discharges of blood from the anus are to be deemed morbid, by which the patient is enfeebled, and the digestion, &c. are hurt.

The general indications are, 1. To take off the increased impetus to the seat of the disease, by bleeding, and small doses of ipecacuanha. 2. To induce an abstraction to the relaxed vessels; this should be done slowly; and to this end, alum is a proper application, or the bark may be used, but other vegetable astringents are too powerful. 3. To avoid all irritation, by regulating the stools.

An incautious use of improper diet will render the best medicines ineffectual in this disease; for which reason, carefully avoid all known causes of it, and every accident that can increase it.

Bleeding, at proper intervals, where there is a sanguine plethora, will, in some measure, prevent the returns, or at least, moderate the violence of them; a light diet, that is cooling and laxative, should be kept to; broths and gruels are useful, but spirituous liquors should be sparingly drank.

When the piles do not bleed, they are attended with considerable pain; in which case, dossils of lint, dipped in warm olive oil, may be applied, or other emollient liniment may be spread on soft rags, and kept on with proper bandages: if the piles are troublesome by their bulk, dress them with a mixture of simple

Simple lime-water, in which is a small quantity of camphorated spirit of wine, and a little cerus. acetat. The sulphur ointments also have been used with advantage; likewise, an ointment of equal parts of oak galls finely powdered, and fresh butter; or orange cork, burnt and powdered, and mixed with butter. When the pain is internal, an infusion of galls may be injected.

The bowels must be kept lax; and for this end, the elect. e fenna comp. sulphur, and the ol. ricini, are also proper laxatives.

If the want of tone in the rectum be a cause, chalybeate tinctures, with bitters, and cascarilla, may be taken for some time.

If other disorders attend, which conduce to the production or continuance of the piles, such remedies as are adapted to their removal, must not be omitted.

If the case requires the assistance of a surgeon to check the hæmorrhage, a cooling purge may be administered, and five or six hours before the operation, inject a glyster, then laying the patient with his belly across a bed or table, let an assistant separate the nates, then the operator may secure the bleeding veins with the tenaculum; but if there are tubercles, take hold of them with the forceps, and cut them off, tying them up also; and be careful not to leave the smallest vein open. If the profusion ceases not thus, apply lint, with proper compresses, and the T bandage. If the veins are high in the rectum, distend it with a convenient instrument, until the veins can be come at. If the blind piles encompas the anus, so as to prevent the discharges by stool, and to prove otherwise troublesome, remove the largest of them by a ligature, which may be tightened daily until the tumour drops off: but before this attempt, let warm spirit of wine be used, in order to disperse it. If the distended vein is high and inflamed, open it with a lancet.

Before we proceed to the use of ligatures, Mr. Bell advises compression to be made on the bleeding vessels; thus, introduce a piece of sheep's gut, tied at one extremity, into the anus, then convey a quantity of water, or any other fluid, into the end which is left open; thus almost any degree of compression may be made, by pushing the water into the upper portion of the gut, and securing it with a ligature. The gut should be of sufficient length to admit of two or three inches hanging out at the rectum. In case of hæmorrhage at the nose, this mode perhaps might be employed with success.

Vide *Heister's Institutes*; *Lobb* on painful Distempers; *Le Dran's Operations*; *Brooks's* and *London Practice of Physic*; *Cullen's First Lines*, vol. ii. *White's Surgery*, and *Bell's Surgery*, vol. ii.

HERNIA, from *ἐρυγμός*, a branch, a *Rupture*. In consequence of some sudden effort, part of the abdominal contents are forced through the interstices left between the tendinous expansions of the abdominal muscles; for the passage of nerves and blood-vessels, or some other part, and a tumour is formed, which, from its resemblance to the budding, or pushing forth of a branch, has been called an *hernia*. Dr. Cullen places this genus of disease in the class *locales*, and order *ectopias*.

According to the situation of these tumours, or from their contents, or both, they obtain their respective denominations; though some take their name from attending circumstances. 1. Those from the situation, are the *umbilical*, *scrotal*, *ventral*, &c. 2. Those from the contents, are the *enterocele*, *epiplocele*, *entero-epiplocele*, *pneumatocele*, &c. 3. Those from attending circumstances, are the incarcerated *hernia*, &c. Distinction has been made indeed betwixt the true and false *herniae*; they are all tumours of the scrotum; but the true are from the abdominal viscera descending into it, and exist either in the groin or scrotum; whereas the false are from other causes, they

they begin below and ascend upwards ; they are the *bernia humoralis*, *hydrocele*, *haematocele*, *sarocele*, &c. they are not displacements of parts, but a morbid state of, or diseases in the part where the tumour appears.

This accident being unattended with rupture, or division of the containing parts, the whole of the disease must at first be considered as a change of situation of the contained parts ; and, as such, were they immediately returned, and kept in their place, the disorder would entirely cease ; but continuing in that preternatural situation, they are pressed upon by the tendons through which they pass, and the circulation of blood being obstructed, inflammation and mortification speedily supervene ; which, however, is not owing to any change of state in the tendons, but merely to their natural elasticity, acting upon an increased and yielding subjacent bulk. The obstacle to the reduction of the prolapsed contents is, therefore, the increased bulk which they have acquired from stricture, by which they become incapable of returning through the same passage at which they escaped.

If assistance is called to the patient in time, the return of the protruded parts must be attempted by such means as cause the vessels to contract, thereby diminishing the bulk of the solids, and repelling the fluids, such as cold, astringent, and stimulating applications. Emollients are absolutely to be avoided, for they cannot relax the tendons ; but they may, and often do, enlarge the bulk of the *bernia*, and render its reduction more difficult, if not impossible. Cold astringents should be immediately applied. Ice and salt is an excellent application ; at the same time, these may be assisted by a gentle but continued compression on the part with the fingers, or with small bolsters of soft linen cloth ; by continuing these efforts for some time, the vessels become visibly less distended, the swelling

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swelling grows flaccid; at length, the stricture gives way, and the disorder is removed.

When all proper attempts fail to reduce the contents of an *hernia*, the sooner the operation is performed the better; but when there are evident signs of the intestine being in a mortifying state, such as the tumour having lost its renitence, &c. Mr. Gooch recommends it as a very reasonable practice to make an incision into the tumour, ample enough to evacuate the fæces freely, which may effectually remove the strangulation of the intestine at the abdominal ring, and then to treat the wound as a mortification, not being over busy with the knife in cutting away what appears to have lost its vitality, but allowing nature to throw off the mortified slough. If it is a doubtful point what condition the parts, contained in the tumour, are in, proceed with caution in the operation, until you come to the intestine, and if that is mortified, open it too; and if the evacuation of the fæces do not effectually make way for the return of the parts, the abdominal ring must be opened by incision.

But, after replacing the *hernial* contents, to retain them requires very often the assistance of a bandage, or a proper compress. Mr. Pott observes, "all that can be done by surgery towards the cure of a *hernia*, is to replace the prolapsed body or bodies in the cavity of the belly, and to prevent them from slipping out again. When whatever formed the tumour is replaced, the surgeon has done his part; the rest is nature's: whether the tendinous aperture will so contract as to prohibit a future descent or not, is matter of uncertainty, and not to be known but from the event."

When a rupture happens, and is unattended with any signs of stricture, or other violent symptoms, a bandage or a truss will be the most eligible means of relief. As to the modes of operation, when the

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knife is necessary, *vide* the respective species of this disorder, and the authors referred to at the conclusion of this article.

Hernia Congenita, is a rupture where the intestine and testicle are found in contract. The testes are originally situated in the abdomen, just beneath the kidneys, and gradually descend near the time of birth through the sheath of the spermatic chord into the scrotum, each carrying along with it a peritoneal coat, which makes the tunicæ vaginales. This discovery was made by Dr. Hunter, in the year 1755, assisted by his brother Mr. John Hunter; it was demonstrated by the doctor in his public lectures that year.

Soon after the birth of the child, the communication between the tunicæ vaginales and the abdomen, is obliterated by the stricture of the parts; but if the intestine falls very soon, it prevents this stricture from taking place, and thus this kind of *hernia* is formed. In the treatment of this species of rupture, little difference occurs from the management of the Bubonocele, in its mere ordinary form.

Hernia Femoralis, called also, *Hernia Cruralis*. This species of rupture is the same in both sexes, and formed by the falling of the omentum, or intestine, or both of them, into the inside of the thigh, through the arch made by the os pubis and ligamentum Fallopii, where the iliac vessels and tendons of the psoas and iliacus internus muscles pass from the abdomen. *Vide BUBONOCELE*. Treat it first by the same general methods as is proposed for ruptures in general; if the operation is necessary, proceed as for the bubonocele, with the difference of dilating the ligament instead of the rings of the muscles; the dilation must be made obliquely outwards, instead of perpendicularly upwards, to avoid dividing the vessels.

Hernia Foraminis Magni Ischii, is when the intestines

testines or omentum fall through the great hole of the ischium into the internal part of the thigh, between and under the two anterior heads of the triceps muscle. In such a case, there must be great laxity of the ligament, and the intestine must lie behind the pectineus muscle, wherefore no pressure can be used to keep it up, and the operation cannot be attended with success; because, as the intestine is strangulated, the orifice cannot be dilated, by reason of the vicinity of the vessels.

Hernia Hemoroidalis, called also *inflammatio testium*. This is often a disease of the tunica vaginalis of the testicle only: it consists of an inflammation and swelling there; but any of the integuments of the testicles, or the testicles themselves, may be the seat. Dr. Swediaur says, that the testicle itself is never swelled, or in the least affected, in the beginning of this complaint; and that the only affected and swelled part is the epididymis. He adds, that if the testicle becomes swelled, it is not until after the other part is affected, and that from bad treatment. It is most frequently a venereal symptom, but may also happen from irritation, from bruises, and other external injuries. It may terminate any of the ways that are common to inflammation in other parts.

It is often caused by a stoppage of a venereal gonorrhœa, or rather from a transposition of the venereal poison; or, in other words, the irritation of the poison transposed to a different place in the urethra; viz. the caput gallinaginis, or the mouth of the excretory ducts of the seminal vesicles; in which case, brisk purgatives, if they produce a return of the running, are useful. Vomits, when the constitution can bear them, powerfully assist in removing this disorder whilst in its inflammatory state; but they should not be given until the inflammation begins to give

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give way, and then the pulv. ipecac. is as useful as the hydrargr. vitriolat.

Whatever be the cause, endeavour to remove the inflammation and tumour, by bleeding according to the strength of the patient; let the bleeding be immediately succeeded by a brisk purge, and let the topical application be of the common astringent and stimulating kind, such as Goulard's saturnine water; let them be applied cold by means of rags folded several times, and repeat them as often as they grow warm and begin to dry. In want of this water, a mixture of vinegar and brandy may be used; thus, if the part is suspended properly, and if the patient can conform to lay much on his back, this tumour will be removed in a short time, without the usual violent pain or the hardness remaining afterwards, which is almost the constant effect of emollients. As soon as the inflammatory symptoms abate, mercury may be prescribed internally, and the ungt. hydrargyr. fort. may be rubbed on the scrotum every night, either to prevent or remove any degree of induration. If, notwithstanding every endeavour to the contrary, a suppuration cannot be prevented, an emollient cataplasm must be applied warm, and continue until a due discharge of the matter is effected. The knife is usually preferred for opening this kind of abscess with; but care is required, lest the testicle should be wounded: the dressings may be the same as directed for abscesses in general. On abscesses in the testicles, vide *Kirkland's Med. Surg.* vol. ii.

Dr. Swediaur proposes, in cases of virulent gonorrhœa, in order to prevent the hernia humoralis, that the patient avoids exposing himself to cold, violent exercise, venery, strong purges, and that he keeps the scrotum duly suspended. If the hernia humoralis takes place, he proposes, first, to allay the irritation, and then to recal the poison to its former original seat: to this end, if the pulse is quick, full, and strong, bleed immediately, but with

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due regard to the constitution. If constive, a glyster should next be administered, to empty the present contents of the intestines: after this, if it can be conformed to, the patient may sit half an hour in a warm bath, or on a perforated chair over the steam of hot water, for the same of length of time, previously suspending his testicles. From thence he must go to bed, and a warm dry bag-trus should be immediately applied. After this, a warm bread poultice may be applied to the penis to re-produce the running, or determine the retropulsed poison to its original seat again. And what is peculiarly beneficial is, to give a full dose of opium by the mouth; or in its stead, a glyster of ol. linn. and aq. hord. 5 a p. æq. cum tinct. opii gt. xl. lx. The diet must be low. When the running returns, relief is proportionably obtained. If required, repeat the opiate every twenty-four hours; and the parts must be exposed two or three times a day to the steam of hot water. Dr. Swediaur's Obs. on Venereal Complaints. Vide Atkins's Obs. on Prep. of Lead; Lond. Med. Obs. and Inq. vol. iii. p. 152, &c.

Hernia Incarcerata. *Incarcerated, imprisoned, or confined hernia,* is either when the protruded intestine so adheres that it cannot be returned, or when it cannot be returned, because of the flatus or other matter which is descended into it, not being capable of a return. Its symptoms are, a swelling in the groin and upper part of the scrotum, larger or smaller according to the quantity of contents, very painful to the touch, and resisting the impress of the fingers; the pain is increased by coughing, sneezing, or standing upright; and there is a frequent vomiting, with a suppression of all discharge by the anus, and a fever presently comes on.

If speedy relief is not obtained, the consequence is fatal.

Very copious or repeated bleeding, and a proper posture,

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posture, are the principal helps; the patient should be laid with his hips much higher than his shoulders, and thus, by gently raising the scrotum, and a light pressure on the tumour, the intestine may return; small doses of opium may be given at due intervals; but if there is an adhesion, the operation is necessary: and if a gangrene is observed in the detained intestine, keep the sound part of it so united with the aperture in the groin, as to be the future anus.

Hernia Scrotalis. It is when the omentum, the intestine, or both, protrude and descend into the scrotum. It is called a perfect rupture, in contradistinction to a bubonocele, which is the same disorder, only that the descent is not so low. The hernia scrotalis is distinguished into the true and false; the true is, when the omentum, or intestine, or both, fall down into the scrotum; the false is, when a humour or inflammation causes a tumour in this part; such as in the case of an hydrocele, hernia humoralis, &c.

Hernia Umbilicalis, called also *exomphalos*, is when the omentum, or intestine, or both, protrude at the navel. If this rupture is attended to in due time, a bandage properly fitted to the parts will generally effect a cure. When a portion of gut alone is protruded, the usual symptoms of a strangulated hernia are apt to be induced. If the usual means for returning the gut do not succeed, the stricture must be removed, by an operation, which is performed as follows: make a free incision in the course of the tumour, and on laying the protruded parts bare, cautiously divide the fat; if the parts are in a proper state to be returned, but cannot be without enlarging the opening, introduce your finger, and divide as far as necessary, with a blunt-pointed bistoury. To avoid dividing the ligament, formed by the umbilical vessels, make the incision on the left side of the umbilicus, and carry it a little obliquely up-

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wards and outwards. When the protruded parts cannot be safely returned from their diseased state, proceed as directed in the Bubonocele.

Hernia Ventralis. This may happen in almost any point of the fore part of the belly, but is most frequently found between the recti muscles, either above or below the navel. It is generally large, and is only to be relieved by returning the protruded parts, and preventing their return by a proper bandage. The tumour which requires this operation, is seldom bigger than a walnut; so when there are the symptoms of a hernia, and yet no appearance of one in the groin, the belly should be examined. The manner of relieving the stricture will be by dilating the part, as in other cases. But after the operation, a bandage must always be worn, as the cicatrix cannot be trusted to.

See *Le Dran's Operations*; *Mem. de l'Acad. Roy. de Chirug.* *Sharp's Operations*; *Sharp's Critical Enquiry*; *Mons. Arnaud on Ruptures*; *Pott on Ruptures*; *Gooch's Treatise on Wounds*, p. 427, &c. and *Bell's Surgery*, vol. i.

HERPES, from *επω*, to spread or creep. Tetter.

These disorders are apt to creep on and spread about in the skin. Dr. Cullen places this genus of disease, in the class *locales*, order *dialyses*, and defines it, *phlegmæ*, or a great number of small ulcers, crowding together, creeping, and difficult to heal.

Mr. Bell, in his Treatise on Ulcers, places the *tinea* and the *herpes*, as varieties in his species of ulcer, which he denominates cutaneous. He further observes, that the cutaneous ulcer may in all its varieties be included in the four following; viz. 1. The *herpes farinosus*; which includes what some call the dry tetter. 2. *Herpes pustulosus*; which includes the *crusta laetitia*, and the *tinæ capititis*. 3. *Herpes miliaris*; of this variety is the ulcerous eruption called the ring-worm.

worm 4. *Herpes exedens*; this includes the ulcers called depascent, and phagedenic.

The *herpes farinosus* is the most simple kind. It appears on any part of the body, most frequently on the face, neck, arms, or wrists; it comes out in broadish spots, which consist of very small red pimples, which are attended with a troublesome itching; they soon fall off in the form of a white powder, which resembles fine bran; they leave the skin perfectly sound, but are apt to return in the form of a red efflorescence, fall off, and renew as before.

The *herpes pustulosus* occurs most frequently in children, generally attacks the face, and behind the ears; often on other parts of the head also, but rarely elsewhere. It appears in the form of pustules, which are originally separate and distinct, but afterwards run together in clusters. At first, they seem to contain nothing but a thin watery serum, which afterwards turns yellow, and exuding over the whole surface of the part affected, at last dries into a thick crust or scab: when this falls off, the skin below frequently appears entire with only a slight degree of redness on its surface; but on some occasions when the matter has probably been more acrid; upon the scab falling off, the skin is found gently excoriated. Vide ACHOR.

The *herpes miliaris* generally appears in clusters, though sometimes in distinct circles of very minute pimples. These are at first perfectly separate, and contain only a clear lymph, which, in the course of the disease, is excreted upon the surface, and there forms into small distinct scales; these at last fall off, and leave a considerable degree of inflammation below, that still continues to exude fresh matter, which likewise forms into cakes, and so falls off. The itching in this sort of ulcer, is always very troublesome, and the matter discharged from the pimples is so tough and viscid, that every thing applied to the part adheres so as to occasion much trouble and uneasiness to

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the patient on its being removed. The whole body is subject to this disorder, but it most frequently appears on the loins, breast, perinæum, scrotum, and groins.

The *herpes exedens* discovers itself on any part of the body, but mostly about the loins, where it sometimes spreads to such a degree as to extend quite round the waist. At first, it usually appears in the form of several small ulcerations, collected into larger spots of different sizes and of various figures, with always more or less of an erysipelatous like inflammation. These ulcerations discharge large quantities of a thin, sharp, serous matter, which sometimes forms into small crusts that in a short time fall off; but most frequently the discharge is so thin and acrid, as to spread along the neighbouring parts, and there to produce the same kind of sores. Though these excoriations or ulcers, do not in general proceed further than the true skin, yet sometimes the discharge is so very penetrating and corrosive, as to destroy the skin, the cellular membrane, and, on some occasions, the muscles themselves.

Dr. George Fordyce speaks of an instance of this disease, under the name of *herpes rapiens*; and says, it arises upon the head in small ulcers, covered with a brown moist crust, and shining, but similar to venereal ulcers. He adds, its cure is the same as for the venereal ulcers, which see.

In the cure of these various cuticular diseases, it has been generally believed to be unsafe, and even dangerous, to proceed in any other way, than by correcting the original disorder of the fluids, which was supposed to produce them. It may occasionally happen, that some disorder in the general habit is attendant on any of these ulcerous complaints, and that a regard thereto may be required; but in the greatest number of instances, they are more certainly and more speedily removed by the use of local remedies merely.

merely. In many diseases of the skin, antimonials are frequently given with advantage, but their efficacy seems principally to depend upon their producing a determination to the skin, and keeping up a free discharge of the matter of perspiration; which, from various causes, is long retained on the surface of the body, and there becomes acrid, and doubtless is a frequent cause of disordered affections in this part. Accordingly, all such remedies are more or less effectual, as they are more or less powerful in keeping up a free perspiration. This is further evident by observing, that a due use of the warm bath, is as efficacious in these cases, as the use of antimonials and other medicines supposed to carry off morbid particles through the skin. In the treatment of every herpetic disorder, the first and principal circumstance to be attended to, is, that not only the parts affected, but even the whole surface of the body, be kept as clean and perspirable as possible; to this end, the frequent use of warm bathing, and of frequent gentle frictions, with clean linen cloths (in the dry sorts of these complaints) are singularly serviceable. In the milder instances, the following externals generally suffice: 1. The aq. calcis si, usually is all that is required in *herpes farinosus*. 2. The solutions of lead in vegetable acid, is also very effectual; the following is a useful general form: R Ceruf. acetat. 3 fs. Acet. acerim. 3 iv. aq. font. dist. 1bij. m. This may be applied in the form of cataplaism, mixed with bread, or by means of soft rags dipped into it, and laid directly on the parts. In some particular and more inveterate cases, the following is sometimes to be preferred; viz. R Hydrargyr. muriat. gr. x. aq. font. dist. 1bij. m. This is very efficacious as an embrocation in any of these disorders. In the more obstinate instances of this complaint, the greatest care is required that perspiration is duly supported, viz. warm diluent drinks frequently taken, as well as the use of the warm bath. The ant. crud.

ppt. to 3 ij. in the day, if mixed with a little g. guaiac. is an admirable assistant to the discharge through the skin, and contributes further aid by its efficacy in unloading the bowels. In the more vigorous and plethoric habits, cooling laxatives are peculiarly beneficial. Issues are sometimes necessary in the more inveterate sorts of *herpes*. In the *herpes exedens*, a degree of inflammation often attends that requires attention ; here the saturnine applications, above all others, check its progress, and at length totally remove it. But if, as it sometimes happens, the herpetic ulcer has made its way into the muscles, the following ointment is preferable to either the saturnine solution, or that of hydrargyr. mureat. & Zinci. pulv. subtilis. 3 ij. axung. porcin. 3 vj. m. The ungt. saturnine of the different dispensatories, is also an useful application in this last mentioned instance. But care must be taken that this ointment is not become rancid. If, notwithstanding the use of the above, the disorder is unconquerable, it may be suspected that a venereal taint at the same time subsists in such a patient. A slight herpetic disorder becomes obstinate by being accompanied with the itch : in such cases, attention must be had to such diseases respectively, before those of the herpetic kinds can be removed. In some instances of the *herpes exedens*, the following bolus has been used with considerable advantage :

R. Hydrargyr. calcin. gr. jss. Confect. opiatæ 3j. m. omn. noct. sumend.

Mr. Bell observes, there is a species of *herpes*, which affects the face, and to which females are particularly liable. After sulphureous and mercurial applications have failed, the following wash has been used with advantage :

& Sulphuris præcipitati 3ij. Cerussæ acetatæ 3j. Aq. Rosar. 3 viij. m. nocte maneq. utendum, phiala prius agitata. Vide *Turner* on Diseases of the Skin, *Bell* on Ulcers, and *White's* Surgery.

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HYDARTHROS. *A white swelling.* This term is applied to such enlargements of the joints as are not attended with external inflammation or discolouration. Mr. Bell divides them into two species, viz. *The Rheumatic*, and *The Scrophulous*. These swellings may occur in every joint of the body, but are more frequent in the large than in the smaller joints.

The symptoms of the first species, which is the most simple, and frequently admits of cure ; are an acute pain over the whole joint, and frequently in the aponeurotic expansion of the muscles connected with it. The whole of the surrounding teguments are swelled, and there is often considerable tension. From the pain which the patient suffers on moving the joint ; he keeps it in a relaxed state, constantly bent, which ultimately produces a stiff joint. If by nature or proper medicines, the disease is not now removed, the swelling gradually increases to twice or thrice the natural size of the part. The cuticular veins become turgid and varicose ; the limb below the swelling decays, and frequently becomes œdematosus ; the pain increases, and is considerably heightened by the warmth of the bed ; abscesses form in different parts of the swelling ; on pressure, a fluctuation is discovered in them ; but independently of the fluctuation, all such swellings afford a very peculiar elastic feel, yielding to pressure, and rising on the pressure being removed. When these collections break, or are opened, there is generally a considerable purulent discharge, of a good consistence at first, but soon becomes thin and fetid. This discharge, however, does not lessen the size of the swelling much, it retains nearly its former dimensions. The orifices, if not kept open, soon heal, and again break out, until the surrounding teguments are often covered with cicatrices. Before the disease has arrived at this state, the patient's health is considerably impaired ; he loses both sleep and appetite, from the unremitting violence of the pain. The absorption

sorption of the matter produces a quick pulse, night sweats, and a weakening diarrhoea, which ultimately prove fatal, if the limb is not removed ; or, the disease cured by some other means.

The symptoms of the second species, which is the most inveterate, are, a more acute pain than in the rheumatic species, and more confined to a particular spot, most frequently the middle of the joint ; the swelling is at first very inconsiderable, so much so, that even when the pain has been very violent, but little difference could be discovered in the size of the diseased and sound joint. As the disease advances, the pain becomes more violent, the swelling increases, and the ends of the bones composing the joints are evidently enlarged. After some time, the tumour becomes elastic, the veins varicose, and matter is formed in different parts of it, which, upon being discharged, is considerable in quantity, sometimes purulent, but more frequently thin and fetid. On introducing a probe, if it can be passed to the bottom of the sores, the bones will be found carious, and pieces of them are often discharged at the openings. As the disease proceeds, night sweats, &c. come on.

The causes of the first species, are strains affecting the ligaments of the joints, producing inflammation ; bruises, dislocations, or rheumatic affection. Young, phlethoric persons are most frequently the subjects of this species. As this is always at first inflammatory, bleed topically, and repeat it according to the violence of the symptoms and strength of the patient. If cupping is employed, apply the instrument on each side of the diseased joint. Leeches must be applied on the same part. After this, apply a blister on the anterious part of the joint, and renew it, until the wounds from whence the blood was taken are healed, then a blister should be put on one side of the joint, and when that is healed, the other side must be blistered. Cooling laxatives, and a strict antiphlogistic treatment must be directed ;

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directed; when the inflammation is removed, and there are no symptoms of matter forming, mercurial friction has been employed with success. It must be used for some weeks to keep the mouth *merely* sore. *Le Dran* recommends pouring warm water from a height on these swellings, as highly beneficial. When the joint becomes stiff from the bent position in which it has been kept, a free use of emollients, as directed in article **DISTORTIO**, must be adopted. When suppuration comes on, open the different abscesses.

The second species, is seldom occasioned by any external accident. It generally begins without the patient being able to account for it. From the effects it produces on the bones it attacks, it would appear to be a species of the real *spina ventosa*; and which is probably a disease of the same nature in the bones, as the scrophula is of the soft parts. This species of swelling is generally attended with other symptoms of scrophula, or the patient has been subject to that disorder at an early period of his life. When these swellings are attended with other symptoms of scrophula, we may pronounce it of a scrophulous nature. In the small joints, if the diseased bones come away, by assisting nature, a cure may possibly be effected. But in the large joints, particularly of the knee and ankle, amputation is the only probable resource, but it should not be advised till the disease is far advanced, nor should it ever be recurred, until every means for saving the limb have been employed.

From every symptom and appearance on dissection, this species of white swelling, seems to be an affection of the bones only; the surrounding soft parts suffering only from their connection. *Vide Bell on Ulcers, Monro's Works, 4to edition 1781, p. 460. Edin. Med. Essays, vol. iv. Lond. Med. Trans. vol. i. White's Surgery, and a Paper on this subject in a Collection of Pathological Inquiries and Observations on Surgery, by Richard Brown Cheston, surgeon to the Gloucester infirmary.*

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HYDROCELE, from *υδωρ*, water, and *ωνη*, a tumour. Is when water is in the contents of ruptures, but particularly is applied to a dropsey in the scrotum, called also *hydrops testis*, and *bernia aquosa*. Dr. Cullen places this genus of disease in the class *cachexiae*, and order *intumescentiae*.

There are two kinds: the first is when the water is lodged in the cells of the membrana cellularis scro-*ti*, but this is generally a symptom of an anasarca. The second, and only proper species, is formed by water lodged within the tunica vaginalis of the testicle. The first is known by pits remaining for a time where it is impressed by the finger: the second, is not subject to this accident.

The cause, when not anasarcaous, is a preternatural discharge of that water, which is continually separating on the internal surface of the tunica vaginalis, for the moistening, or lubricating the testicle.

From the time of its first appearance, it is seldom known to disappear, or diminish, but generally continues to increase, though in some much faster than in others. In one, it grows to a painful degree of distension in a few months; in another, it continues many years, with little disturbance. As it enlarges, it becomes more tense, and is sometimes transparent, so that if a candle is held on the opposite side, a degree of light is perceived through the whole bulk of the tumour; but the only positive way of knowing that a fluid is the contents, is to feel for the fluctuation, or to discover that the distension of the tunica vaginalis is the cause of the tumour, and not an hernia of the omentum, or intestines, or some other disorder of the part.

The *hydrocele* must be distinguished from an hernia of the abdominal contents, an hernia humoralis, and a sarocele.

In order to the cure, if the water is lodged only in the cellular membrane, scarifications may be made in

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in the legs, as in an anasarca; for in this case, an anasarca is attendant, and the cause of the distention of the scrotum.

If the case is a proper *hydrocele*, if any other disorder is suspected to give rise to it, the original disorder must first be removed. If no such disorder attend, as a palliative cure, the trochar, or a lancet. (Mr. Bell recommends a flat trochar) may be pushed into the seat of the water, in order to its discharge; and as the testicle lies always on the posterior part of the tumour, the perforation must be made into the anterior and lower part of it. The water thus discharged, its return may perhaps be prevented, by employing such general means as promote absorption, with some topical applications, of which, vinegar and brandy is probably the best.

To obtain what is termed a *radical cure*, that is, to produce an union between the tunica vaginalis, and albuginea, and thus obliterating the cavity, which is the seat of the disease, various methods have been proposed. Mr. Pott recommends a seton. Mr. Baker, of St. Thomas's Hospital, employed a caustic, which method was afterwards strenuously recommended and extolled, by Mr. Else. Mr. Earle advises injection, and Mr. Bell, incision. Which of these methods are to be preferred, I cannot presume to say. I have seen them all succeed repeatedly.

If the method by *SETON*, is adopted, choose a time when the vaginal coat is moderately distended, and having pierced it with a trocar of a tolerable size, draw off the water. This done, introduce into the canula, a probe, armed with a seton, consisting of ten or twelve strings or threads of silk; pass the probe as high to the upper part of the vaginal coat as you can, and on the end of that probe, make an incision of such a size, as to enable you to pull it out easily, together with a part of its annexed seton, then cut off the probe, and tie the silk very loosely, covering the

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the orifices with pledgits. By the next day, the seton will be found to adhere to the tunica albuginea, but do not offer to detach it. In about eight and forty hours, the scrotum will begin to swell and inflame. Now apply a soft poultice over the whole tumefied part, and suspend it in a bag truss. Bleed, and procure the patient a stool or two; the rest of the treatment is as in hernia humoralis, by fomentations, poultices, &c. Do not meddle with the seton, till it is perfectly loose, or till the inflammation is going, and the humours subsiding; then daily draw a thread or two, until they are all removed, and heal the orifices with a superficial pledgit. Vide Pott's Account of the Method of obtaining a radical Cure of the *Hydrocele*.

In the method by **CAUSTIC**, proceed thus: lay a small caustic upon the anterior inferior part of the scrotum, taking care to avoid the testicle. A caustic the size of sixpence is sufficiently large. It should never lay on less than five hours, but, if well guarded, no inconvenience will arise from its being left twenty-four hours. On removing the caustic, digestives, or a bread and milk poultice, must be applied. In about forty-eight hours, but sometimes not so soon, the tunica vaginalis becomes hard and tense, which is perceptible in the scrotum. If the patient's pulse is quickened, and complains of pain in the back, with colic pains, bleed, and direct a glyster, and repeat them if occasion requires. These removed, the patient need not be confined to his bed, but may walk about if the scrotum is suspended. In a few days, the eschar will come away, and when the sloughy tunica vaginalis projects through the orifice of the scrotum, and seems ready to burst, puncture it with a lancet. This is only necessary, however, to relieve the weight of the tumour. The sloughs will come away with the daily dressings for four, five, or six weeks, and, in proportion to the discharge,

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discharge, the hard tumour of the scrotum lessens. Upon casting off the last slough, the hardness is entirely gone, and the wound immediately cicatrizes. Vide *Else* on the *Hydrocele* of the *Tunica Vaginalis Testis*.

The method by **INCISION**, is as follows. The patient being placed upon a table of a convenient height, properly secured by two assistants, and the scrotum lying nearly upon the edge of the table, firmly grasp the tumour with one hand, so as to make it somewhat tense on the anterior part, then with a common round-edged scalpel, divide the external teguments by one continued incision, from the superior extremity of the tumour, along its anterior surface, to the most depending point of the swelling. Thus, the tunica vaginalis is laid bare from one extremity to the other, about the breadth of half an inch. Now make an opening with a lancet, at the upper extremity of the vaginal coat, big enough to receive your finger, which introduce, and with the probe-pointed bistoury, conducted upon your finger, divide the sac to the bottom in the course of the first incision. If the testis protrudes from the wound, replace it with caution, and preclude the external air from it as quickly as possible, which, if none of the tunica vaginalis is to be removed, may be immediately done, by finishing the dressing directly on the sac being opened. If the sac is not very hard, and not very thick, it will not be necessary to remove any portion of it. As soon as the incision has been made, insert between the tunica vaginalis, and the body of the testis, slips of soft linen, spread with some simple ointment. They produce less irritation than dry lint, and are afterwards more easily removed. Vide *Bell's System of Surgery*, vol. i.

When the method by **INJECTION** is employed, if the tumour is very large, it must be emptied, and

the water again suffered to accumulate, till about six ounces are collected. Then tap the cyst in the usual mode, and inject through the canula of the trochar, as much of the following injection, made blood warm, as will distend the tumour to its original size :

R Vini rubi 3xij. aquæ. puræ 3iv. m.

Let the injected liquor remain four or five minutes, and then press it out. If considerable inflammation arises, apply the bread and milk poultice. Vide *Monro* on the Tumours of the Scrotum, in the *Edinb. Med. Essays*, vol. v. *Lond. Med. Journal*, vol. xi. and *White's Surgery*.

HYDROPHOBIA, from *ὑδωρ*, *water*, and *φοβεω*, *to fear*. *A Dread of Water*. It is a symptom of that species of madness caused by the bite of a mad animal, whence the distemper is called so itself; but this symptom is not peculiar to this disease, nor always attendant on it. This disorder is also called *rabies canina*. Dr. James observes, that this kind of madness properly belongs to the canine genus, consisting of three species, viz. dogs, foxes, and wolves, to whom only it seems inherent and natural, scarcely ever appearing in other animals, except it be inflicted by those of the dog-kind. Dr. Heysham defines it to be an aversion and horror at liquids, as exciting a painful convulsion of the pharynx, occurring at an indetermined period, after the canine virus has been received into the system.

The *hydropobia* is a nervous disorder, though followed by inflammatory symptoms. Dr. Cullen places this genus of disease in the class *neurosis*, and order *spasmi*. He distinguishes two species : 1. *Hydrophobia rabiofa*, when there is a desire of biting. 2: *Hydrophobia simplex*, when there is not a desire of biting.

The general divisions of this disorder is into the dumb, and the raving madness; but instances are related, in which it has appeared periodically.

The principal and original seat seems to be about the stomach, and parts contiguous to it. Dr. Seleg thinks that it is in the par vagum and intercostal nerves; for most of the symptoms happen where these nerves are interspersed.

The smallest quantity of the saliva of a mad dog; and that either fresh or dry, produces this disease. The infection may lay dormant for many months; but, in general, it appears in three or four weeks, and if in six weeks no sign of disorder manifests itself, the patient is usually concluded to be safe. Some have observed, that the nearer the place bitten is to the salivary glands, the sooner the symptoms appear. In order to communicate the infection, a wound seems to be no more necessary than it is in the small-pox; to man it is communicated by the saliva only, but dogs have received it by being in the kennel where mad dogs have been before. It is above observed, that the dog kind have only this disorder naturally, but other animals having received the infection, may communicate it to other species. The dread of water is a symptom in some fevers, and in some particular inflammations, &c.

The material or proximate cause seems to be in the irritation of the nerves that are the more immediate seat of this complaint.

According to Boerhaave, the signs of madness in a dog are as follow: he becomes dull, solitary, and endeavours to hide himself; he seldom barks, but makes a kind of murmuring noise, at the same time he refuses all kinds of meat and drink; he is enraged at, and flies upon strangers, but in this stage he remembers and respects his master; his ears and head hang down; he walks nodding, as if overpowered with sleep: this is the first stage, and a bite now, though dangerous, is not so bad as afterwards. After these symptoms, the dog begins to pant; he breathes quick and heavy; hangs out his tongue to emit a great deal of

froth from his mouth, which he keeps perpetually open ; sometimes he walks slowly, as if half asleep, and then suddenly runs ; but not always directly forward as is pretended ; at length he forgets his master, his eyes look dispirited, dull, full of tears, and red ; his tongue is of a lead colour ; he is suddenly extenuated ; he grows faint and weak, often falls down, then rises up, attempts to fly at every thing, and now grows mad and furious : this second stage seldom continues thirty hours, death putting, by that time, an end to the disease, and a bite received now is incurable.

To these symptoms the following may be added, which are considered as certain signs of a dog's being mad : 1. All other dogs, upon smelling the dog that is going mad, will avoid him, and run away with horror. 2. The tone of the dog's voice, when he barks, seems hollow and hoarse. In the dumb madness, if the dog is confined, he barks incessantly for a day or two.

When the human species are the subjects of this disorder (though, in particular instances, some variation may be observed) the symptoms are, in general, a slight pain in the wound, sometimes attended with itching, but always resembling a rheumatic pain : it extends also into the neighbouring parts, and, at length, from the extremities it passes into the viscera ; the cicatrix (if there has been a wound) begins to swell, inflames, and, at length, discharges an ichor ; this pain is considered as the primary invariable mark of a beginning *hydrophobia*. There are more general pains, resembling rheumatic ones ; they are of a quick, flying, convulsive kind ; they affect the patient in the neck, joints, and other parts ; often a dull pain seizes the head, neck, breast, belly, and even runs along the back bone ; towards the conclusion of the disorder, the patient complains of this kind of pain shooting from the arms towards the breast and region

of the heart: besides these symptoms, a lassitude, a dull pain in the head, and a vertigo come on; the patient is gloomy, murmurs much, is forgetful, drowsy, at times his mind seems disordered, by turns he is wrathful, his slumbers become disturbed, and, awaking from them, convulsive agitations immediately follow; a deafness is sometimes complained of, the eyes are watery, the aspect sorrowful, the face becomes pale and contracted, sweat also breaks out about the temples, an unusual flow of saliva at length comes on, with a dryness of the fauces, a foulness of the tongue, and, in some, the breath becomes fetid. Besides these, from the beginning there is a peculiar stricture and heaviness on the breast, a struggling, as it were, for breath, a sighing, a nausea, and vomiting. This oppression of the *præcordia*, is one of the primary and constant symptoms of this disorder; it begins, increases, and ends only with it: this is the first stage, under which different patients vary as to their continuance. As the above symptoms increase, the second stage advances; a fever comes on, which, at first, is mild, and attended with momentary horrors, but in some there is no fever; wakefulness becomes continual, the mind is more and more disturbed, a delirium approaches, and an aversion to fluids, and polished bodies. At first, a constriction of the gullet is perceived, and difficulty of swallowing, but as yet liquids are freely taken; afterwards, however, they are refused; this symptom augments so visibly, that when any liquid comes before their sight, immediately an horror seizes them, and if they strive to drink, spasms are produced, on which anxiety and loss of senses follow: as soon as the surface of the liquid is touched, a strangulation in the throat is felt, the stomach is inflated, the larynx, outwardly, is swelled, and that quite suddenly, and as suddenly falls; though liquids are thus obstructed, solids are nevertheless swallowed with tolerable ease;

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yet this symptom may become so violent, as totally to prevent the solids from passing as well as liquids. In some, an exquisite sensibility is induced, so that the air offends if it touches the skin, the light becomes painful, and the least sound is intolerable. The patient now murmurs and mourns grievously ; at times, he loses all knowledge of his most intimate acquaintance, he then becomes desirous of biting ; reason returns at intervals, and he laments his own calamity ; the thirst excites a desire of drink, but in vain they strive, and soon sink into the most affecting despondency ; conscious of the approaching inclination to bite, he warns his friends of their danger, and advises them to keep at a distance ; a priapism, and involuntary emissions of semen, sometimes attend this stage ; at the approaching conclusion of which, the fever and thirst increase, the urine is lixivious, and but in small quantities ; the tongue hangs out, the mouth foams, the pulse is throbbing and convulsive, strength fails, cold sweats come on, the tightness in the breast increases, by which the patient soon expires in spasms.

The symptoms appear in some two or three days after the bite, more frequently not until after as many weeks ; and instances are well attested, in which a year has passed before the infection has taken place ; when the disorder is once manifest, the symptoms are sometimes so rapid, that a quarter, or half an hour, makes a considerable change.

The infection may be communicated, as that of the small-pox is, by inoculation ; and it is observable, that when the small-pox is inoculated, if no inflammation appears about the puncture, or till after the inflammation appears, there is no small pox ever comes forth ; so the same is observable in the bite of a mad-dog, though the wound readily heals sometimes, yet it constantly breaks out afresh, and inflames, before any of the terrible symptoms appear.

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That this disorder is primarily and principally nervous, appears from the constant and chief symptoms that attend, viz. the flying pains, the tightness of the præcordia, the difficulty of swallowing, the horror on the approach of water, the quick sensibility manifest by the uneasiness felt on the air's approach, &c. Dissection discovers nothing with respect to this disorder.

Agreeable to the nature of the immediate cause, the cure is effected only by such means as destroy nervous or spasmodic irritation, or that by a specific property destroys the peculiar acrimony which causes the disorder. Of the first, opium is the only one to be depended on; and of the second, mercury in such portions as to excite a ptyalism, is the approved method.

Solid opium, to the quantity of gr. j. vel. gr. j. ss. may be given every three hours, or as often as the effect of the preceding dose seems to have ceased. Musk, in large doses, may also be administered every six or eight hours; sponges dipped in vinegar may be applied to the mouth and nostrils; and a piece of flannel, moistened in the following, may be applied three or four times a day: Rx Tinct. Opii. 3ij. camp. 3 j. m. The warm bath is also useful.

In some instances, mercury, given by the mouth, or applied by unctuation, until a spitting came on, has proved effectual. The salivation should be kept up by the same means as at first it was excited, and continued during two or three weeks. The ungu. hydrargyr. fort. should be well rubbed into the wound two or three times a day.

A late foreign writer says, that if vinegar is given to a pint a day, divided into three doses, one in the morning, another at noon, the third at night; it effects a cure. On the contrary, some others suppose the poison communicated by a mad-dog, is of an acid nature, and propose absorbent alkaline earths, as chalk,

chalk, bōle, &c. for the cure. Dr. Vaughan proposes the actual cautery to be applied to the part, after the bite, as soon as possible; or rather, a dilatation of the wound, if small, and filling it with gunpowder, then setting fire to it; this, he supposes, would produce a laceration of the part, would secure a free and continued discharge for some time; and he thinks, that the action of the ignited gunpowder upon the poison, may have its use.

Perhaps the following may be pursued as the most probable means of relief: Avoid sea and cold bathing; keep the wound open by a pea, and sprinkle cantharides into it every second or third day; rub in the ung. hydrargyr. fort. so as to raise a gentle ptyalism; and particularly rub the throat with it; if spasmodic symptoms appear, give opiates with antimonials, to excite perspiration. Rx Opium, gr. xij. f. pil. ix. cujus cap. j. tertia quaque hora. And Rx Antimon. tartariz. gr. $\frac{1}{2}$. micis panis q. f. f. pil. sexta. quaq. hora spatiis intermediis sumend. The warm bath, if the patient does not object to it, generally palliates.

Probably, the best mode that can be adopted, is, immediately on the bite being given, to suck the wound well for some little time, then cut the bitten part away, rub the wound freely with caustic, and direct the use of mercury both internally and externally, till a ptyalism is produced. Others propose, instead of caustic, after the flesh is cut out, to fill the wound with mercurial ointment, and surround the whole with blistering ointment. It has also been lately recommended, to throw oil into the system by repeated external frictions and glysters; and to be drank also if the patient will conform. Vide Dr. James's Treatise on Canine Madness; Dr. Mead on the Bite of a Mad Dog; Dr. Seleg's Dissertation on the Hydrophobia; Dr. Nugent's Essay on the Hydrophobia; Med. Mus. vol. ii. p. 97, and seq. Lond. Med.

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Med. Obs. and Inq. vol. iii. Edin. Med. Comment. vol. i. p. 42; Dr. Vaughan's Two Cases of Hydrophobia; Cullen's First Lines, vol. iv. Memoirs of the Medical Society of London, vol. i. p. 243. and White's Surgery.

HYDROPS GENU. *A Dropfy in the Knee.* A collection of water under the capsular ligament of the knee. If the synovia, says Dr. Hunter, is separated in too large a quantity, and the absorbents do not their duty properly, an hydrops articuli succeeds, which causes a relaxation of the ligament. For the cure, Mr. Sharp recommends a tight bandage; but with this, some discutient application should be employed, such, as the aq. amm. acetatæ, or a solution of sal. ammon. crud. in acet. acerrim, in the proportion of $\frac{3}{4}$ ss to fl. Vide Gooch's Cases and Remarks, vol. ii. p. 529, and seq. Edinb. Med. Comment. vol. vi. p. 132.

HYMEN, $\delta\mu\epsilon\pi\eta$. *A membrane*, in general; but by it, is usually understood, the membrane which appears in form of a crescent, and is situated at the entrance of the vagina. When this membrane is ruptured, it is shrivelled up, and forms the *carunculæ myrtiformes*. It naturally shrinks with years, and often disappears before the age of twenty, and therefore can be *no proof of virginity*. In some infants, this membrane so closes up the urethra, that the urine cannot be voided; in others, the urine passes, but when the menses flow, they cannot be discharged, from the hymen being imperforated. When the mark of perforation cannot be seen, the cure has been thought impracticable; but in a case where the lancet did not succeed, a trochar and canula were used with success, though the perforation extended four inches before the desired effect was produced. Vide Heister's Surgery, and the Edinb. Med. Commentaries.

HYPOPYON, from $\delta\pi\sigma$, *under*, and $\pi\mu\sigma\eta$, *pus*. An abscess in the coats of the eye, arising from inflammation,

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mation. The matter is confined in a bag, or cyst, or, at least, is always confined to one part of the eye, which is observed to be elevated into the form of an ordinary abscess, while the rest of the eye retains its usual form. *As soon as the matter is clearly formed*, an incision must be made in the most depending part of the abscess, and after the contents are evacuated, the parts must be covered with a soft compress moistened with a weak solution of the cerus acetatæ, and every part of the antiphlogistic regimen must be followed, till the wound in the eye is completely cured. If a fungus arises where the opening was made, apply a little burnt alum, finely powdered, or any other mild caustic. Avoid delay in performing this operation, as the matter of the abscess may burst inwardly, and totally annihilate every degree of vision. Vide *St. Yves* on the Diseases of the Eye; *Wallis's Sauvages's Nosology of the Eyes*, p. 176, and seq. *Bell's Surgery*, vol. iii. and *White's Surgery*.

I.

INFLAMMATIO, also, *Pblegmone. Pblogosis.* *Inflammation*; is an increased circulation in any part, from irritation, external or internal; local, or universal.

The *immediate cause* of inflammation, is irritation. It does not depend on the quantity of *crassamentum*, nor the ardency of the blood. Spasm and *inflammation* mutually produce each other. Putrid matter is amongst the varieties which irritate the nervous and sensible parts, and so excite *inflammation*. The kinds of irritation are, perhaps, as various, as are the different causes thereof; the matter of the small-pox produces one, that of the itch another, &c. More fluid circulates through, and is more secreted in a part that is inflamed, than when it is in a natural state. Sensibility, and irritability, are increased by *inflammation*, and are produced in parts that did not manifestly possess them before.

The *mediate cause* of *inflammation* is the increased sensibility, or irritability of the fibres; whence irregularity in the excreta and retenta.

The *remote causes* are wounds, bruises, sudden and excessive cold, luxations, aromatic aliments, &c.

Inflammations receive different names, according to the different parts on which they manifest themselves, as in the instances of a quinsy, pleurisy, &c. called *phlegmonous inflammations*, and a catarrh, diarrhoea, &c. called *inflammations* of the mucous membrane.

However various may be the divisions and subdivisions

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visions of *inflammation*, like fever, they are all but inflammation, differently circumstanced. If the sanguineous vessels, in those membranes that are inflamed, are the seat of the irritation (as in *inflammations* of the stomach, brain, &c.) the *inflammation* is then called phlegmonous; but when the irritation is on the surface of the membranes, it stimulates the secretory mucous glands to the accumulating and discharging more than in a natural state they usually do. So an irritation, and its consequent, an extraordinary afflux, or circulation of humours through the part, constitute *inflammation* in both cases.

All the *inflammations* that come under the name of phlegmonous, have the same seat; they are all in the sanguine arteries of the part inflamed. Boerhaave, to support his doctrine on this kind of *inflammation*, speaks of the red blood being obstructed by an error of place; but obstruction is not a cause, though it may be an effect of this disorder. The mucous membrane is the seat of those *inflammations* which come under the denomination of *inflammations* of the mucous membrane. If there are tumours, the *inflammation* is phlegmonous, and these are distinguished into phlegmonous and erysipetalous. The seat of the phlegmonous is in the *sanguinary arteries*, and the *cellular membrane*; the seat of the erysipelatous is *in the skin, or other internal membranes not cellular*.

Dr. Cullen uses the term *phlogosis* for this genus of disease. He places it in the class *pyrexiae*, and order *phlegmasiae*. Defines it to be a fever, redness of an external part, with heat, and a painful tension. The species he points out, are; 1. *Phlogosis phlegmone*, the phlegmonous *inflammation*. 2. *Phlogosis erythema*, erythematous *inflammations*.

The principal effects of *inflammations* are heat, pain, swelling, redness, an accelerated pulse, a dryness of the skin, and an itching.

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The heat is excited by the reciprocal action and reaction of the solids and fluids. The irritation on the fibres increases the action of the vessels; the velocity of the fluids are thereby quickened through them, and thus heat is excited in proportion as there is *crassamentum* in the blood.

Pain. This is excited by the distention of the vessels in a part already become preternaturally sensible.

Swelling. This is not caused by obstructed blood, but by the excess of heat distending the cellular membrane; but a swelling is not essential to an *inflammation*.

Redness. This proceeds from the quantity of blood determined to the part.

The quickened pulse is from that law in nature, by which the heart always increases its efforts, to free its subservient vessels from any injury they sustain from accidental, or preternatural irritation.

Dryness of the skin. This is from the stricture in the capillaries, whose use is nearly abolished by the irritation on them.

Itching. This is but the beginning of what ends in pain by its increase.

The prognostics are more or less favourable in proportion to the importance of the part affected, the constitution of the patient, the intenseness of the symptoms, the attendance of other disorders, as the scurvy, lues venerea, &c. In a part that is of a firm texture, and has but few vessels, such as the ligaments, glands, &c. the cure is often tedious, and a proper cure is not always effected; for a scirrhus is sometimes the consequence. If the symptoms of *inflammation* cease suddenly, the epidermis is raised into blisters full of ichor, or sinks, and the colour of the part becomes livid, whilst, at the same time, the pulse is small, and the sensibility of the part is lessened, a gangrene is then approaching.

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Sometimes an *inflammation* soon goes off, at others, it is removed with difficulty, and often it terminates in other diseases. An *inflammation* can only terminate by a removal of its immediate cause, viz. the erethism of the vessels, or rather the irritating matter. But, generally, it is said to end in a resolution, a suppuration, a gangrene, a scirrhus, or a cancer. That the two last are the result of inflammation, is not universally allowed.

Resolution, is, when, upon removing the cause, the symptoms diminish gradually; and at last the patient is in the same state as before the disorder began. And, unless morbid matter was the cause, this is the most desirable way of termination. A resolution may be brought about by some increased evacuation happening by nature's efforts, or by those of art; a fever coming on; or by a metastasis. But these are not properly the modes of the resolution of *inflammation*, but the methods which nature or art has taken to remove the irritation which was the immediate cause. In all these species of resolution, callousness are sometimes left.

Suppuration is more properly a consequence of *inflammation* than a mode of its termination. It happens, when a quantity of blood is thrown out into some cavity (the *inflammation* continuing) it ferments and is converted into pus, which afterwards acts as a ferment on the solid parts, and gives occasion for the conversion of the whole into a matter similar to itself, the symptoms of *inflammation* going off.

A *gangrene* may be a consequence of *inflammation*, but never can be considered as a mode of *inflammations* going off; for now sensation is destroyed, and life, with respect to the part that mortifies, is extinguished; whence no morbid cause can any longer be productive of effects.

A *scirrhus* and *cancer* seem to be peculiar diseases, not the modes by which *inflammation* terminates.

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Mr. Sharp observes, in his Introduction to the Operations of Surgery, that, "A scirrhouſe gland is generally mentioned as a fourth termination of *inflammation*; but with impropriety, since it ſeldom or never occurs but in venereal, ſcrophulous, or cancerous caſes; when it is the forerunner, and not the confeſſion of an *inflammation*, the tumour generally appearing before the diſcolouration."

One general method of cure is that which is proper in all the denominations of phlegmonous *inflammations*, however diſtinguished by phlegmon, eryſipelas, œdema, or whatever else. And, in general, there are but two indications; the first is to leſſen or remove the irritation; the ſecond is to abate the increased afflux of the humours.

Though *inflammations* of all parts and kinds have the ſame general treatment in order to their cure, yet regard ſhould be had to their ſtructure, ſituation, and conneflation of the parts, to the antecedent cauſes of the diſorder, and the conſtitution of the patient.

It is obſervable, that a phlegmon, on its decline, assumes ſucceſſively the forms of an eryſipelas and œdema, and then it vaniſhes; this would not happen ſo ſoon if they proceeded from inſpiſſated blood, ſerum, or lymph, wedged in ſmaller vessels than is deſtined to circulate them; whence, as theſe diſferent appearancess of *inflammation* are known to arife ſucceſſively in the ſame place, it ſeems very certain that they proceed from the ſame cauſe, viz. from the ſame kind of humours in the ſame ſeries of vessels, and that they are nothing else but the diſferent degrees of intensity of the ſame diſease, alſo that the ſame general method of cure is proper for them all.

To anſwer the *first indication*, viz. to remove the irritating cauſe, 1. Endeavour to remove all that can continue the morbid irritation. 2. When ſpasms are the cauſe, opium is the propererſt remedy. 3. When a ſtimulating fluid is ſecreted on a ſenſible membrane,

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its action may be hindered by the application of oily, unctuous, or mucilaginous matters. The morbid acrimony may be destroyed by proper alteratives, or mercury, &c. 5. Destroying or lessening the irritability of the part, by means of the bark, preparations of lead, &c. 6. The distention of the internal vessels is removed by restoring the circulation on the external surface of the body, or giving, internally, medicines to relax the small vessels throughout the system, by their action on the stomach; such as nitre, sal ammoniac, all the neutral salts, ipecacuanha, seneka root, antimonial preparations, cold water, external applications, such as finapism, blisters, &c.

The second indication, viz. to abate the increased afflux of the humours, is answered, 1. By bleeding. 2. Purging with neutral salts. 3. By the application of sedatives to the stomach, as acids mixed in the patient's drink, and narcotics given at proper intervals in small doses. 4. Sedatives, such as the preparations of lead, &c. may be applied externally. And, 5. An inflammation may be excited on the skin, near the part originally affected (except the skin itself is the part inflamed); to this end, frictions, the volatile liniment, or even blisters, may be applied.

Mean while, let a cooling attenuating diet be directed; barley-water, in which the true gum arabic is dissolved, is among the first for the common drink; and, in order to its free discharge by urine, add to each draught so much nitre as produces a due discharge that way; though sometimes the nitre, by irritating too much, rather checks than facilitates the discharges by the kidneys.

If the external inflammations are to be removed without a suppuration, emollients should never be applied; they increase every degree of tumour, by adding to the quantity of matter there accumulated, and rendering the vessels both more yielding to their impulse, and less able to carry them off; thus they counteract

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counteract every intention of cure. The increased action of the vessels are to be allayed, and the sensibility of the part abated, by such sedatives as neither increase the tumour, the pain, the heat, or the tension; to this end saturnine topics, or, in their stead, the simple astringents and stimulants in common use, such as the usual mixture of vinous spirit with vinegar, possess the desired efficacy. When the seat of *inflammation* is a lax glandular part, applications that are strongly stimulant, are the most safe and advantageous. And where there is but little sensibility in the part, as in the scrophulous tumours of lymphatic glands, blisters exceed all other topical remedies.

The belly should be kept lax in all kinds of *inflammations*; and internal ones are much relieved by a frequent use of glysters.

Vapours and warm baths contribute much to relief, by lessening the irritation of the fibres, and by retarding the motion of the blood.

When the *inflammation* abates, attenuants and aperients are used with advantage. Vide *Bell* on Ulcers; *Cullen's First Lines*, vol. i. *Kirkland's Med. Surg.* vol. i. *Pearson's Principles of Surgery*, vol. i. and *White's Surgery*, vol. i.

Inflammatio Articuli, inflammation in a joint. The rheumatism is an instance of this kind; but no great danger is to be apprehended from it, as it is seated in the ligaments. In this case, bleeding, mild cathartics, sudorifics, and a prudent use of opiates, are useful; and if the joint is rigid, a warm bath will relieve it much.

The danger of a suppuration in a joint is from the length of discharge, and the absorption of the matter, which rarely fails to bring on a fatal hectic; therefore, by all means, if possible, let this accident be prevented.

INFLAMMATIO INTESTINORUM. *Inflammation*
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of the *Intestines*; called also, **ENTERITIS**. It is the *inflammation* of the exterior coats of the intestines that is here treated of; it differs greatly from an *inflammation* of the inner villous coat, or mucous membrane, in which case there is either *aphthæ*, or a *dysentery*. According to the different parts of the intestines, in which the *inflammation* is seated, different names have been given, as *iliaca passio*, &c. but in all the treatment is the same.

If a sharp pain, with a fever and nausea, is above the navel, and below the stomach, the colon under the stomach is the seat of the *inflammation*. If the pain is in the right hypochondrium, under the spurious ribs, then that part of the colon which joins the ilium, may be inflamed. If the pain is, in the middle of the belly, about the navel, the small guts are affected.

The cause may be, external cold, indurated fæces, heavy or hard bodies lying in the intestines, intussusceptions, adhesive stimulants, hernias, wounds, or any other cause of internal *inflammations*.

The usual symptoms are, a shivering, an acute burning pain in the belly, which is fixed in the part where it was first perceived; sometimes it increases a little, and then remits, but most frequently it is continually the same. Generally, the whole belly is affected at the same time with spasmodic pains, which extend to the loins; and flatulencies are often troublesome. The pulse is small, hard, frequent, and often it becomes at last irregular and intermittent. There is a coldness in the extremities, also a sudden and great prostration of strength. Sometimes a watery diarrhoea attends, but more frequently the muscular fibres of the inflamed part contract so strongly, that nothing can pass through, although a motion returns very frequently; sometimes the anus is so contracted, that a small pipe can hardly be introduced. Flatulencies in the stomach, sickness, violent reachings, and

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and vomiting, frequently attend. The tongue is dry, thirst great, the urine often pale and obstructed, sometimes it is high coloured, and discharged with heat and difficulty. The breathing is quick. The patient bends forwards, frequently compresses his belly, because the abdominal muscles are spasmodically contracted: the face is flushed. At length, a delirium comes on, and convulsions, by which the patient is destroyed.

Inflammation in the bowels frequently terminate in a mortification; in which case the pain goes off, and the patient appears to himself for a little relieved; his face grows pale, the under eye-lid becomes livid; but the pulse continue frequent, small, and often irregular; the extremities are cold, delirium and convulsions now come on, and cut the patient off. Just before he expires, it often happens, that he discharges very foetid stools.

If this disorder is left to nature, it sometimes kills in a few hours, and almost always before the end of three days; so that there is rarely a suppuration. But if an abscess is formed, the pain abates, and is converted rather into a sense of distension, and irregular cold fits, with the other symptoms of internal suppuration, arise; the contraction of the muscular fibres of the intestines, the great frequency of the pulse, and other symptoms, go off. When this abscess bursts, the patient swoons, and seems freed from a sense of weight in the part where it was.

Inflammation in the external membrane of the intestines, should be distinguished from the stone in the kidneys, or in the ureters, from *inflammation* of the kidneys, or rather of the abdominal viscera, from spasmodic pains of the belly, and from other obstructions there, in which no *inflammation* attends; it should also be carefully distinguished from the colic, the haemorrhoides, and from the iliac passion.

If the pain shifts, the vomiting returns only at intervals,

intervals, and while the glysters pass downwards, there is hope. If the patient survives three days, and the pain abates suddenly, with chilness and shivering, a suppuration is forming, which in about fourteen days will break; then if the patient becomes tabid, the only help is a palliative one for a short time. When all passes upwards, the patient is very weak, the pulse fluttering, the countenance pale, the breath offensive, then danger is very great. Clammy sweats, a small intermitting pulse, fœtid or black stools, a total abatement of pain, are signs of mortification being begun, and then death soon follows.

On the first attack, bleed freely, notwithstanding the smallness of the pulse, and seeming weakness, for the pulse becomes fuller, and the prostration of strength goes off as the *inflammation* abates. Repeat the bleeding at short intervals, until the pulse becomes soft.

Acids should be joined with every draught of the patient's common drink.

The antimonial powder should be given in such doses as the stomach will easily retain, and a saline draught should be repeated every hour or two.

If acrimony is a suspected cause, bleed, give a dose of the sal cath. amar. with as much of the antimon. tartariz. as will cause it to operate upward and downward; then give the creta mixtura c. Ph. Lond. and the decoction of calcined hartshorn for common drink.

Cooling laxative glysters should be given every two or three hours, until a stool is procured. It should be observed, that though the sal marin. is the best purgative in general for glysters, it is improper if any *inflammation* is suspected in the bowels. But tobacco smoak may be injected, and repeated at short intervals, until the desired effect is obtained.

Purges are contra-indicated by the contraction of the inflamed part; though when all other means fail of obtaining a passage, purges, with opiates, must be tried; the sal cath. amar. is the best, of which two ounces

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eunces may be dissolved in $\frac{1}{2}$ j. of water, and given by two or three spoonfulls every half hour; and to prevent vomiting, give the tinct. opii gt. xxv. in aq. cinnam. si. vel aq. menth. pip. If no liquid stays on the stomach, give pills, such as the following: R Puly. jalap. & kali vitriolat. $\frac{3}{4}$ ss. opii gr. j. sapo. Venet. q. s. f. pil. vj. statim sumend. If these do not operate in two or three hours, repeat them.

Immediately after bleeding, apply a blister on the pained part; it often causes both glysters and purgatives taken by the mouth, to pass downwards.

Put the patient into a warm bath; let him sit there, with the water as high as his breast, as long as he can without fainting; repeat it if required; but be careful that the water be not too hot. In bringing him from the bath, great care is required to guard against the cold. If the bath cannot be had, the legs may be put into warm water, and bladders of warm water may be applied to the belly, and the like may also be laid to the feet.

If the vomiting is severe, or to prevent a purging medicine from returning, opiates may be admitted, otherwise their use is not adviseable until all other means fail, and then give the following: R antimon. tartariz. gr. $\frac{1}{3}$ ad $\frac{2}{3}$, syr. papaver. alb. 3 ij. ad 3 vj. aq. menth. 3 ij. m. f. haust.

In case of an abscess, vide ABSCESS in the Intestines.

INFLAMMATIO MAMMARUM MULIERUM, Inflammation in the Breasts of Women, called also, MASTODYNIA. This may happen at any time, but, generally, is the attendant of those who give suck. A shivering is most frequently a preceding symptom; then follows the inflammation, with more or less fever; a quick pulse, thirst, head-ach, and difficult respiration.

As the usual methods to prevent the afflux of milk in the breast are uncertain, to guard against inflammation, the mother should consent to suckle her own child,

child, at least during the first month; and during this time, to order her diet so that the discharge by urine may be somewhat increased, and the bowels kept lax; the breasts should also be kept as empty as possible, by means of glasses or other contrivances for this purpose. But if, notwithstanding this, an *inflammation* actually takes place, bleed, direct a thin spare diet, give laxatives, and apply the following embrocation by means of linen rags, which should be moistened with it as often as they dry: *R Aquæ ammon. 3 ss. spt. camph. 3 iss. m.* If this is too irritating, add to it half an ounce or more of olive oil: or this lotion, highly recommended by Mr. Justamond, may be used. *R Ammon. Muriat. 3j. sps. rorismarini 1b. in pulverem redige ammoniam, et in spiritu solvatur.* The following is also useful: *R Aq. Ammon. acetat. sp. vin. R Aq. distill. aā 3iv. m.* A fomentation of poppy heads, with crude sal ammoniac in proportion of half an ounce to a pint, has been employed with success. If the *inflammation* does not yield to this management in four or five days at the most, the best method is to encourage a suppuration without delay. *Vide ABSCESS in the Breast.*

INFLAMMATIO MUSCUL ABDOMINIS. *Inflammation of the Muscles of the Belly.* When these parts are inflamed, the skin over them is greatly stretched, so that it cannot be pinched up with the fingers; and if they are swelled, the figure of the respective muscle is preserved; the inflamed muscle is very hard, and more so as it tends to suppurate; there is generally more or less of fever; during any action of the diseased muscle, the pain is considerably augmented, as in case of sneezing, straining at stool, or even in breathing.

The rheumatism is sometimes fixed in these muscles; they also suffer from pressure, as when patients with a stone in the bladder seek for relief, by resting their weight upon their belly when it is placed upon some hard body, &c.

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This complaint should be distinguished from a colic, an inflammation in the liver, or any of the subjacent viscera.

If this kind of inflammation terminates in an abscess, and it is discharged inwardly, it proves fatal. And if any tendency to a mortification appears in these muscles, the issue is to be dreaded.

If the hardness is considerable, and a throbbing pain is perceived, an abscess is forming; it should be encouraged with all speed, and a discharge procured by an opening, as soon as possible.

As a suppuration is so dangerous, and at the best is so very difficultly managed, to remove the *inflammation* by the speediest methods, before a tendency to the forming of an abscess can be manifested, will necessarily appear to be the most eligible method. Bleeding, then, with purging, and such other means as are used in other instances of *inflammation* in the external parts, should be applied, and steadily pursued.

INFLAMMATIO PERIOSTEI. *Inflammation of the Periosteum.* Besides the other usual causes of *inflammation* in other parts of the body, the venereal disease, and the scurvy, are causes of *inflammation* in this part. The venereal poison is a frequent cause, when the periosteum within the bone is the seat of the disorder.

The external periosteum, that is, the membrane which covers the bone, and separates betwixt it and the flesh; or the internal periosteum, that is, the membrane which lines the cavities of the cylindrical bones, and which separates betwixt them and the marrow contained in them.

When the external periosteum is inflamed, a deep seated pain and heat is felt, and sometimes a pulsation: and when the part is not covered with much flesh, the pain will be augmented by pressure; muscular motion, however, increases the pain. That the inner membrane is the seat of the *inflammation*,

is suggested from the want of pain on pressure, or on moving the muscles of the respective part, by not perceiving any pulsation ; by receiving no relief from any position of the pained part ; and, particularly, by a sensation like the splitting of the bone from within outwardly.

Inflammation in both membranes of the bone, proceed from the same causes, produce the same effects with respect to the part of the bone they adhere to, and terminate in the same manner, viz. in an abscess or a gangrene ; but when the inner membrane is affected, and becomes gangrenous, the case is always destructive of the whole marrow and bone.

If inflammations of these kinds are not speedily removed, the bone will be injured, and the periosteum upon the injured part destroyed, and it cannot be renewed until the bone exfoliates, and is renewed, during which time the incumbent parts will be irritated by an acrid sanies, by which malignant and incurable ulcers are often produced, especially if it happens where a large portion of flesh covers the bone, and hinders a safe incision on the part.

In general, the cure is, as in other inflammations ; but the particular intention will be to carry the pectoral matter outwards by fomentations and incisions. As a suppuration near the bone is to be dreaded, endeavours to draw the disorder to the external parts must be attempted, if it cannot be dissipated by bleeding, strong purges, &c. To invite to the external parts, softening fomentations and poultices may be applied ; but if these methods fail, the only remaining one is, to cut down through the flesh to the bone, if the part admits of it.

When an abscess begins to form itself, it is known, and treated as in the article ABSCESS of the Periosteum.

INFLAMMATIO VAGINÆ. *Inflammation of the Vagina.* This accident sometimes happens after delivery

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livery. It is occasioned by the head of the child being long retained in the pelvis.

If the swelling and *inflammation* are not very great, they are generally removed by the discharge of the lochia; but if the internal membrane of the vagina is inflamed, emollient injections must be thrown up from time to time, and a piece of prepared sponge should be introduced, to prevent its coalescing. The sponge may be thus prepared: take a piece of a proper size to keep the vagina open, when it is expanded; soak it in warm water; then roll it tight from end to end with a string; cut off any irregularities, or hard lumps, and lay it to dry; when dry, take off the string; the sponge being then stiff, it will remain in that form; anoint it with lard, and introduce it into the vagina, the moisture of which will expand it.

If the pressure on this part was so long continued as to obstruct the circulation in it, a mortification will ensue, which may either be total or partial: if it is total, the patient will die; if partial only, the mortified parts will slough off. This may be known to be the case, if the woman complains of great pain after delivery, a fetid smell, and a discharge of sharp ichor at first from the vagina, then pus and matter. When this is the case, emollient fomentations may be thrown up from time to time; doffils of lint may be dipped in some gentle stimulant, and applied to the parts to deterge and heal them; and when the sloughs are all cast off, great care should be taken to prevent the vagina from growing together, either by introducing doffils of lint, or pieces of sponge into it.

INFLAMMATIO VESICÆ. *Inflammation of the Bladder*, called also, *CYSTITIS*. It is produced by the usual causes of internal *inflammation*; an *inflammation* in its internal coat is sometimes caused by a stone lodged in it.

The diagnostics are as follow; with a fever, a pressing

ing and burning pain is perceived in the region of the bladder above the pubes, and in the perinæum; sometimes a redness is perceived in these parts, though the pain is deep seated. If the neck be the part affected, there is a retention of urine, with a constant stimulus in its evacuation; if the fundus be the part diseased, there is a continual dribbling, with great efforts to throw out a larger quantity at a time, which the patient conceives to be contained in the bladder. Frequent attempts to expel fæces, with which the rectum appears to the patient to be always loaded; these increase the pain very much, particularly when any fæces are actually contained, and especially if they are hard. The pulse is frequent and hard, and the extremities are cold: there is great anxiety, restlessness, sickness, vomiting, delirium, and other symptoms of irritation.

This disorder usually terminates soon, either in a recovery or death; frequently the latter. A gangrene comes on, by which the pain is removed; but the other symptoms continue until death.

This disorder may pass off by an increased secretion of mucus from the internal membrane, or by a metastasis, or by suppuration; in which last case the matter may be discharged into the cavity of the bladder, and pass off with the urine; or in the cellular membrane, and so pass externally through the perinæum; or lastly, into the cavity of the abdomen, where it proves fatal. The ulcer in the bladder and perinæum are difficult of cure.

Inflammation in the external coat of the bladder, should be distinguished from that of the internal; and *inflammation* in any part of the bladder should be distinguished from *inflammation* in the adjacent parts, also from that retention of urine which proceeds from other causes.

In order to the cure, bleed according to the strength of the patient, and the violence of the symptoms.

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Relaxant medicines, such as the pulv. antim. and hauft. salin. should be given as early as possible, and repeated as often as is convenient; for help must be speedy and powerful, or death soon puts a stop to means.

Laxative and cooling glysters should frequently be injected, or if these cannot be complied with, the cooling saline purges may be given by the mouth, and so repeated as to keep the bowels lax.

If the urine is retained, decoctions of mucilaginous herbs should be freely drank; or, if need be, the catheter may be used, though much care is required in its introduction.

If notwithstanding due evacuations, a spasmodic contraction with much pain continues, opiates in small doses, such as tinct. opii. gt. iij. may be repeated at proper intervals.

If a redness appears externally, apply an anodyne emollient cataplasm, and cover it with bladders of warm water. If no appearance of *inflammation* is observed externally, rub the region of the bladder, and also the perinæum, with the linim. ammoniæ. Ph. Lond. to excite *inflammation* in the skin.

The patient may be placed in the warm bath two or three times a day.

If by uncertain horrors, and the departure of some of the symptoms of *inflammation*, a suppuration is suspected, hasten its progress, in order to as speedy a discharge of the matter as possible, which, when evacuated, proceed as in cases of an ulcer in the urinary passage.

INFLAMMATIO UTERI. *Inflammation of the Uterus.* Women after child-birth, when the lochia are impeded, are the most frequent subjects of this complaint.

The causes, besides the common ones of internal *inflammations* in general, are tearing, bruises, external stimuli, obstructed menstrua, or obstructed lochia.

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It often happens after abortion, and child-birth, especially when the lochia are prevented by cold, or other cause, and is then attended with symptoms different from those which appear when an uterus not lately impregnated is inflamed.

In the first case, there is a pain at the bottom of the belly, which for the most part is neither throbbing nor constantly acute ; the pulse is frequent, especially after child-birth, often small, sometimes irregular ; in strong habits, and after early abortions, hard ; the patient is affected with delirium, a subful-tus tendinum, and the other symptoms of irritation ; the womb gangrenes and mortifies, and the patient sinks. In the second, the pain is more constant, bounded, and throbbing ; the pulse is hard, full, and strong, and other symptoms of general *inflammation* attend ; or if the disease rises to a greater height, the pulse is small and frequent, the symptoms of irritation attend, and suppuration is more liable to happen.

In both, as different parts of the womb are affected, there is a strangury, or a suppression of urine ; the little that is discharged is foetid and hot, or a tenesmus attends, with a pain in going to stool ; or there is pain in moving the lower extremities, or swelling, with heat, to be felt by introducing a finger up the vagina, the os tincæ being shut ; universal restlessness, thick urine, pain upon external pressure, the belly is tense, a red stain extends up to the navel, and turns black when fatal ; and if it happens in an impregnated uterus, an abortion follows.

It often happens, that the woman can only lie on her back, and on turning to either side, she feels a painful heavy mass fall to that side, and at the same time, an excessive pain in the loins, kidneys, and groin, of the opposite side. The pains excited by *inflammation* in the womb, sometimes extend to the inside of thighs when the woman turns on her side, or it is felt in the loins.

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This disorder may be removed by a spontaneous eruption of the menses, or of the lochia; or after an abortion or child-birth, by the patient's falling into a constant, equal, gentle, long continued sweat; or it may terminate in an abscess, or a mortification, both which last are almost always fatal. Sometimes a metastasis proves a means of relief.

Bleeding, however useful in most *inflammatory* disorders, in this particular one, though not wholly useless, yet, if freely used, only increases the weakness, without lessening the *inflammation*.

When *inflammation* attacks a womb not lately impregnated, the common remedies used in internal *inflammations* are to be employed, regard being had to whether the attendants are an *inflammatory* diathesis, or the symptoms of irritation.

In abortions and labours, where the patient has not been much weakened, if the pulse is hard, and not very frequent, the loss of blood by the arm may be followed with advantage, but it rarely happens that this evacuation can be repeated; therefore the general method of cure will always depend on relaxants, such as the pulv. antim. and haust. salin. taking care that they do not produce a purging. To these, as necessary, may be added, anodyne and antispasmodic fomentations and poultices.

In delicate or feeble constitutions, after child-birth, and where there is no hardness, but great frequency of the pulse, this disorder too often proves fatal. All that can be done is to keep the patient in bed, moderately warm, exciting, if possible, a gentle constant sweat by farinaceous decoctions, in small quantities at a time, but frequently repeated, and applying fomentations and poultices.

Perspiration may be free; the other usual evacuations by urine and stool, may be moderately promoted; but all very extraordinary ones are dangerous.

Always guard against pressure on the affected part,

whether from any thing external, from urine in the bladder, or from fæces in the rectum. Urine, if necessary, may be drawn off with the catheter, and the bowels may be emptied by repeated glysters, which should be watery.

Blisters generally quicken the pulse too much, and seem not so useful in this case as in some other local inflammations.

No disorder requires more care to keep the patient composed in mind, and still in bed.

Until the fever and spasms abate, the stimulant aromatics and emmenagogues will be improper; indeed the lochia are rarely promoted by them at any time.

If pain continues, notwithstanding the usual treatment, opiates may sometimes be given with success, as is directed in an *inflammation of the intestines*.

If a suppuration comes on, endeavour to procure an exit to the pus as soon as possible, which, when it points to the perinæum, may be sometimes managed. *Vide Magenise on Inflammation. Atkins's Observations on the external Use of Preparations of Lead, and on Inflammation, as it constitutes particular Disorders; likewise, Fordyce's Elements of the Practice of Physic, part ii.*

IRIS. *The fore part of the Choroides, so called from the varieties of its colours.* The operation of cutting the iris is required when a cataract adheres to it; and when from the contraction of its muscular fibres the pupil is closed up. Thus both these disorders are sometimes remedied. Mr. Sharp, in his Operations, ch. xxix. directs the operator to proceed as follows: place the patient as for couching, open and fix the eye with the speculum oculi, then introduce the knife in the same part of the conjunctiva that is wounded in couching; insinuate it with its blade held horizontally, and the back of it towards you, between the ligamentum ciliare, and circumference of the iris, into the anterior chamber of the eye; and after it is advanced

advanced to the farther side of it, make your incision quite through the membrane: and if the operation succeeds, it will, upon wounding, fly open, and appear a large orifice, though not so wide as it becomes afterwards. Mr. Sharp farther observes, that when the pupil is contracted from a paralytic disorder, this operation can hardly be encouraged.

ISCHURIA, from *στήνω*, to retain, and *επον*, urine. *An ischury*, a stoppage or suppression of urine. La Motte distinguishes betwixt a retention, and a suppression of urine. In a retention, the patient has frequent motions to make water, without being able to void it; or if he does pass any, it is in very small quantities, and with difficulty; this is also called a strangury. In a suppression, there is seldom any inclination to discharge any urine; but if there is an inclination, the discharge is sudden.

An *ischuria* is of two kinds, viz. the true, in which case the bladder is full; and the spurious, in which the bladder is empty, for nothing descends from the kidnies.

Dr. Cullen places this genus of disease in the class locales, and order epischeses. He distinguishes four species: 1. *Ischuria renalis*, when the kidnies do not secrete the urine, and consequently there cannot be any stimulus to discharge it. 2. *Ischurio ureterica*; there is pain in some part of the ureter, but no stimulus to discharge the urine. 3. *Ischuria vesicalis*, when there is a tumour in the hypogastric region, pain at the neck of the bladder, and a frequent urging to discharge urine. 4. *Ischuria urethralis*, when there is a swelling in the hypogastric region, a frequent desire to discharge urine, and the pain in the urethra.

The causes are various. Etmüller says, the most frequent is a want of mucus in the urethra. Other causes are a stone in the kidnies, or bladder; caruncles in the urethra; inflammation in any of those parts; a spasm in the neck of the bladder, or in the urethra; pain from the piles in pregnant women, the child's

child's head pressing the neck of the bladder against the os pubis; a tumour, or ulcer, in the prostate gland; a refluxion of humour on the neck of the bladder; a retention of urine; a palsey in the detrusor urinæ; a retention of hardened excrements in the intestinum rectum, &c. A spurious ischury is when the kidnies secrete no urine, or when the ureters either do not receive, or do not transmit it; and this may happen from inflammation of the ureters, or in the kidnies.

When the suppressed urine is lodged in the bladder, a pain and swelling is observed about the pubes; a suppression from relaxation is distinguished from suppression from stricture; first, by the little pain attending the disorder; secondly, by the introduction of the catheter; thirdly, from the distention of the bladder, observable from the fulness above the pubes; fourthly, from no stimulus being excited in the bladder to discharge any fluid wherewith you distend it. If inflammation in the kidnies is the cause, the pain and heat are principally in that region. If a stone in the kidnies give rise to the complaint, a vomiting is an attendant symptom. If a stone in the bladder obstructs the urine, a pain is felt there, and also along the urethra; a mucus, or pus, is excreted with pale urine; and, generally, the stone may be felt, if the catheter is introduced. If from inflammation in this neck of the bladder, there is also pain and a tumour there, the pain will be much increased if the perinæum is but slightly pressed; and if a finger is introduced into the anus, and turned towards the bladder, a tumour will easily be perceived.

If this disorder is in a great degree, there is a tenesmus, coldness of the extremities, a vomiting, and a febrile pulse.

If this disorder is the spurious kind, there is no tension, but rather a sense of emptiness about the pubes.

If this disorder continues above seven days, it generally proves fatal; also, if from a wound of the spine, or luxation of its vertebræ. If the smell of urine proceeds from the patient's mouth or nostrils, there is no hope. An hiccough, and a tenesmus, are also unfavourable symptoms.

If the urine is lodged in the bladder, and cannot be voided, whether the cause be cold, a too long retention of urine, and whatever else that could deprive the fibres of the bladder of their contracting power, or if the suppression is from a spasmodic stricture in the neck of the bladder, an immediate recourse to the catheter is not convenient; for in these cases it causes much pain; but such medicines as oppose the cause should first be tried.

If the habit is plethoric, bleed, inject the turpentine glyster, with a dram of the opii tinct. and an oily mixture may be given, in which is the sp. nitr. æther, with the tinct. opii, in proportion to the degree of pain; and the patient may be placed in a warm bath. If these fail, a bougie may be introduced, or the catheter may be used.

In children, a suppression of urine is often relieved by a poultice of raw onions, or of radishes, applied to the pubes.

When a long retention of urine is the cause, cloths may be rung out of cold water, and applied round the waist and belly; to this, bleeding should in some constitutions precede.

If a relaxation or paralysis of the detrusor urinæ be the cause, give the bark with nervines, and apply cloths, wrung from cold water, round the belly and loins, or put the patient into a cold bath. Gentle pressure on the belly should now and then be used.

When caruncles obstruct the urethra, bougies should be introduced.

When a retention of urine is produced, let the cause be what it may, every patient so circumstanced is

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is spasmodically affected; and, generally, the introduction of a bougie will increase the spasm, produce a shivering, and then a fever fit; all which will return as often as the bougie is introduced; and the disease to be relieved will become proportionably obstinate. Yet, if the bougie is introduced without pain, and the patient discharges his urine more freely, its use may be continued.

If there is inflammation in the neck of the bladder, the catheter cannot be used before the inflammation abates; diuretics cannot conveniently be admitted; here nitrous medicines, neutral salts, the acidum muriat. diluted in the patient's common drink; and small doses of camphor, may be frequently given. Decoctions of parsley roots, with a little nitre, may be drank in proportion as the thirst requires; and bladders of warm water may be applied to the pubes and perinæum, or to the region of the kidneys, if the inflammation is there; and such other medicines as are recommended in the nephritis. Bleeding is here a principal remedy, and as a laxative the sal cath. amar. or the ol. ricini ver. may be used.

If a stone obstructs the neck of the bladder, or the urethra, push it back with the catheter, or cut through the perinæum, and there extract it. Some advise never to use the catheter in retentions of urine from any cause but from a calculus obstructing its passage. But though this advice may be too general, the use of this instrument is rarely required.

When the head of the child, in pregnant women, obstructs the passage of the urine, introduce a finger into the vagina, and push back the child's head until a due evacuation is made.

When acrid urine is the cause, emulsions made with the ol. ricini, should be the common drink. Nitre mixed in oily draughts, and mucilaginous decoctions, are the proper remedies.

Spasms

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Spasms are removed by fomentations, the warm bath, demulcents, glysters, antispasmodics, and anodynes.

When the urine is totally retained in the bladder, it is too common a practice to advise to introduce the catheter; but whether this complaint arises from inflammation or from spasm, this conduct should carefully be avoided. Mr. Pott observes, that the best method of relieving this complaint, particularly when caused by spasm, is by evacuation and anodyne relaxation. The loss of blood, he says, is often necessary; as to what quantity, the strength and state of the patient will determine. The intestines must be emptied by some gentle cathartic. But the most effectual relief will be from the warm bath, or semicupium, the application of bladders half filled with hot water to the pubes and perineum; and, above all other remedies, the injection of glysters, consisting of the decoct. com. pro. clyst. ol. and tinct. Thebaic. or if after a due bleeding, and if necessary, emptying the bowels, a free dose of opium is given, and the patient is seated in a warm bath during twenty minutes, or half an hour, repeating this use of the bath oftener or seldomer as the case may seem to require, success will very rarely fail to attend: and if by these means, the urine begins to drop through the urethra, although but a drop in a minute at the first, by persevering steadily and closely, the bladder will, at length, effectually empty itself. Let the whole endeavour be to appease irritation and pain, to accomplish which, although it may take up three or four, or seven days' careful attention, it will amply reward the practitioner's care, and the patient's patience.

When great pain attends a retention or suppression of urine, the person called on for his assistance should first be well satisfied, that the case is what it is supposed to be; he should observe whether the kidneys have

have done their office, and whether in reality there is urine in the bladder, which, if full, it will be so distended as to be felt above the os pubis, and by pressure on it, a pain will be excited in the neck of the bladder. Another observation deserves attention in instances of this kind; viz. the bladder will contain, sometimes, a large quantity, and not be affected by it; at other times, a very small quantity will affect it; so that when an obstruction takes place, an inflammation arises, and symptoms of irritation ensue; and, if relief is not immediately given, the patient is soon cut off. Dr. George Fordyce observes, that much of the difficulty and pain from retained urine is from the more or less sudden filling of the bladder or distending it.

When the urine is suppressed from the kidneys failing to perform their office, diuretics are difficultly to be admitted; attempts may be made to relax the vessels of these organs by putting the patient frequently into the warm bath; and purges may be admitted, as they increase the secretions in the intestines.

If no other method will succeed, a puncture may be made into the bladder, as directed in the article **PERINÆUM** (Puncture of the).

Indeed, there are four methods proposed by different writers, for drawing off the urine; viz. 1. By making an opening into the bladder above the os pubis, in the part where the high operation for the stone used to be performed. 2. By making a puncture in perineo, and so getting into the bladder. 3. By making an opening into the bladder through the parts divided in the latetal operation for the stone. 4. By getting into the posterior part of the bladder, through the rectum, with an instrument introduced up it for that purpose. But from the experience of some judicious practitioners, it can hardly be said that their advantages are an encouragement to perform

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form them. If one of these methods was determined on, Mr. Pott gives his opinion in favour of opening the bladder above the os pubis; but observes, that in his practice he has not seen any of them to be necessary; and further, though he does not absolutely forbid, yet his persuasions against them do very little less.

See an instance of this disorder from a retroversion of the uterus, in the Lond. Med. Obs. and Inq. vol. iv. p. 388, &c. Vide *Pott's Chirurgical Works*; *Lewis's Translation of Hoffman's Practice of Medicine*; *Bell's Surgery*, vol. ii. *White's Surgery*, and *Memoirs of the Medical Society of London*.

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LABIA LEPORINA, *the Hare-Lip*, is when there is a fissure in the upper lip; sometimes there is also a considerable deficiency of parts, like that of a hare, whence its name. The division is sometimes double, like the letter **M**; it is then called the *Double Hare-lip*. In some instances, the fissure extends backward along the whole course of the palate, through the velum, pendulum, and uvula into the throat; in some, the bones of the palate are either altogether, or in part, wanting, while in others they are only divided from one another. Either of these affections require an operation, which the sooner it is performed, the sooner will the deformity and inconveniences arising from the disease be removed. It is, however, generally recommended to delay the operation till the third, fourth, or fifth year. Mr. Bell is clearly of opinion it should never be long delayed when the child is healthy.

In proceeding to the operation, if the patient is an adult, place him in a chair opposite to the light, and let an assistant support his head; but if a child, it will be better to lay him on a table, and secure him in a proper posture by an assistant standing on each side; then separate the upper lip from the gums by dividing the frenum. If one of the foreteeth, opposite the fissure, projects in any degree, remove it. When the fissure runs through the bones of the palate, a small portion of bone sometimes projects from one or both the angles; this also must be removed by the pliers or forceps. This done, place a piece of

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smooth soft wood under the lip, and stretch it upon it, and with a common scalpel make an incision from the under border of the lip up to the superior part of it, including all the parts concerned in the fissure, and a small portion of the contiguous sound skin and parts beneath. This effected, make a similar incision on the opposite side, of the same length, and terminating in the same point in the upper lip. Thus, if the operation is accurately performed, the part cut out will be of the form of an inverted v, and the deficiency will have the appearance of a recent wound. The divided parts must now be brought accurately together, and so retained by the twisted suture. In adults, three pins will be full sufficient; but two is enough with an infant. In passing them, let their entrance be made nearly half an inch from the edge of the sore, and carry them nearly to the bottom; then pass them again outward, in a similar direction, and to an equal distance on the opposite side of the fissure. Apply a piece of lint, covered with mucilage, in the course of the cut, and a bolster of soft lint under the heads and points of the pins. To support the muscles of the cheek, it is generally recommended to apply the uniting bandage, but Mr. Bell says, neither this nor any other is but seldom necessary. But when the parts are with difficulty brought together, he advises an adhesive plaster, spread on leather, to be applied over each cheek, of sufficient size for reaching from the angle of the jaw, to within an inch of the pins on each side; and each piece of plaster having three firm ligatures fixed to that end of it next the pins, one at each corner, and another in the middle; let an assistant support the cheeks, while the ligatures are tied, so as to retain the parts in this situation. The ligatures should be made to pass between the pins. At the end of five or six days, the pins may be withdrawn, as in that time, at farthest, the parts are united.

In case of a *double bare-lip*, the operation must be
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performed twice. The cure of one fissure should be completed before we venture on the other.

For the suture, Mr. Bell recommends gold pins to be employed; and some have recommended silver or gold pins with steel points; but I have always used common pins, and I am inclined to think them equally good.

The treatment here directed for the hare-lip, are equally applicable by whatever cause the fissure may be occasioned, only where the division is recent from a wound, it is merely necessary to insert the pins, &c.

When a hare-lip is attended with a fissure in the bones of the palate, after uniting the soft parts as already directed, some advantage may be derived, from a thin plate of gold or silver, exactly fitted to the arch of the palate, and fixed by a piece of sponge stitched to the convex side of it, being inserted into the fissure. Vide *Le Dran's Operations*; *Heister's Surgery*; *Sharp's Operations*; *Bell's Surgery*, vol. iv. and *White's Surgery*, p. 249.

LEPRA, from *λεπρός*, rough, and that from *λεπίς*, a scale; the *Leprosy*. Among the various disorders which arise from an impure serum, and manifest themselves in the skin and subjacent integuments, are those which come under the names of *itch*, *herpes*, and *leprosy*; of the latter there are different species on record, some of which are no where known to exist at this day; and the rest are but obscurely understood.

The *leprosy*, of whatever kind, is a chronical disorder; in warm climates it is very infectious, though not evidently so in cold countries. Dr. Cullen places this genus of disease in the class *cachexia*, and order *impetigines*. One species only is known. Sauvage notes six varieties, the chief of which observed with us are, the *lepra Graecorum*, and the *lepra ichthyosis*.

Fat people are observed to be more gready afflicted with skin diseases, when they are the subjects of

of them, than the lean; also more subject to relapses after being cured.

The remote causes are, whatever diminishes the vital heat, and reduces the general strength of the body. The immediate cause is, a faulty serum; this stagnates in the integuments and skin, producing inflammation, exulceration, eruptions, &c.

By the *lepra Arabum*, (which seems to be the same as the *lepra Græcorum*) Aetius says, the whole body is so disordered, that the bones are said to be vitiated. The surface of the body is covered pretty thick with spots and tumours, the redness of which is by degrees converted into a black colour. The external skin becomes unequally thick, thin, hard, and soft; it is in a manner rendered rough by certain scales, clefts, and chaps; the body grows lean; the face, legs, and feet fwell. When this disorder is of long standing, the fingers and toes are concealed under a tumour, and a slight fever arises, which easily destroys the patient, labouring under so many disorders. In the West-Indies, this disorder is known by the name of the black scurvy, or Indian black scurvy. Its approach is there observed to be gradual; at first there are many spots on the body, of a yellow brown cast, which soon turn purple, and of a copper colour; these increase, grow thick, and rough, with hard scales; a numbness is felt on the fingers and toes; the breath is fœtid, the voice hoarse, the hard and scaly parts crack, and ulcers appear in different parts; but at length a fever comes on, which closes the scene.

In hot countries, leprous disorders are most frequent; and in different places there is some variety in the symptoms; but by the methods attempted for the cure, and the success which attends them, the disorder seems to have but one general nature, however it appears, or by whatever name it is called.

Besides a thin laxative diet, warm bathing, and a pure

temperate air; antimonials, mixed with mercurials, are principally depended on; these are assisted by warm perspiratives, such as guaicum, sharp-pointed dock, sassafras, &c. small doses of cantharides, so as to promote a moderately increased discharge by urine; nitre continued in small doses for a long time, and many other medicines, have been administered for the relief of these disorders; but none of them seem to have equalled the success which Dr. Lysons met with from the following decoction:

R Cort. interior. ulmi rec. 3 iv. coq. in aq. puræ
 ℥ iv. ℥ij. colaturæ cap. ℥ fs. bis die. It should be
 continued several weeks. If after its use, the efflo-
 rescences increase, it is a favourable symptom. Vide
Aretæus, lib. iv. c. 13. *Celsus*, lib. iii. *Hieronimum*
Mercuriale de *Morbus Cutaneis*. Lond. Med.
Transl. vol. i. & ii. *Lond. Med. Obs. & Inq.* vol. i.
 p. 201. &c. and *Lond. Med. Journal*, vol. i.

LEPRA ICHTHYOSIS. *Fisby Leprosy.* Dr. Lett-
 som, in his *Medical Memoirs*, says, "this disease
 does not depend on any particular diet, nor is it con-
 fined to any particular temperament. In both sexes,
 it usually appears about the age of puberty, or after
 that, towards the acme of life, especially in those of
 light coloured hair, and smooth fine skin. It certainly
 is not contagious. People advanced in years have it
 in a less degree, than when young, but no time of
 life is totally exempt from its attack. Besides the
 preternatural appearance of the skin, no function
 seems interrupted or impaired, nor any other com-
 plaint evident. It would therefore appear to be purely
 a topical cutaneous disease, which probably arises from
 some affection of the secretory organs or glands of the
 skin.

At first it appears in red spots in the skin, of a
 roundish figure, which rise up into sensible emi-
 nences, and being scratched, a fluid oozes out. When
 the cuticle becomes thin, they seem evidently more

or less separated, and then resemble so many transparent scales, which generally do not fall off till a new cuticle is formed below, which, in a little time, rises again in the same manner, in a dry, scaly, crusty eruption; sometimes confined to particular parts; at others, occupying nearly the whole surface of the body, or removing from one part of it to another, without any evident cause; and in summer, sometimes entirely leaving the patient, and returning again in autumn and winter.

Mercury, antimony, and sea-bathing, seem to be of no avail in this disease. The most useful external application, is a cerate of bees-wax and olive oil. The only effectual internal application, is the decoct. cort. interior ulmi. If the disorder is obstinate, it will be necessary to continue the decoction for some months. Sometimes the disorder seems entirely removed in the spring, when the warmth of the weather increases with the year, and returns with the returning cold towards the conclusion of autumn. It would hence be adviseable, to repeat the decoction at those periods when the disorder may be most suspected, till the patient has a probable security against any future attack."

LITHOTOMIA, from $\lambda\iota\theta\iota\varsigma$, a stone, and $\tau\epsilon\mu\omega\omega$, to cut. *Lithotomy*, or cutting for the stone. When a stone is suspected to be lodged in the bladder, independant of the usual symptoms indicative of its presence, it may be ascertained by the introduction of an instrument, called A SOUND. This instrument should be of solid steel, and moderately curved. The introduction is thus effected. "The patient being laid on an horizontal table, with his thighs elevated, and a little extended, pass the sound with the concave part towards you, until it meets with some resistance in *perinæo*, a little above the anus; then turning it without much force, push it gently on into the bladder, and if it meets with an obstruction at

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the neck, raise its extremity upwards, by inclining the handle of it towards you; or if it should not then slip in, withdraw it a quarter of an inch, and introducing your fore-finger into the rectum, lift it up, and it will seldom fail to enter. There is some art in turning the sound in the proper place of the urethra, which surgeons not well versed in this operation, cannot so well execute; therefore they may pass the instrument with the concave side always towards the abdomen of the patient."

The common rule of knowing whether there are more *stones* than one in the bladder, is not infallible (vide *Warner's Cases in Surgery*); though if a *stone* is universally rough, there is rarely more than one: but if one part is polished, and another rough, it is almost certain that there is more. Some speak of an adhesion of the *stone* to the coats of the bladder, but it does not appear probable, that the fibres of the bladder should inosculate with such an inorganic foreign body. It indeed often happens, that the bladder is wrinkled round the *stone*, and in extracting, the operator tearing a little of the inner coat of the bladder, imagines, or pretends, that there was an adhesion. If a *stone* is in the bladder, by introducing the sound, the operator may hear it strike against it, but cannot thus determine whether the *stone* is large or small. Sometimes the operator examines, but cannot find a *stone*, though there is one; for instances occur, in which it is lodged in a sac. Before a patient is examined, he may use a little exercise, such as riding, or jumping, by which the *stone* may fall down to the neck of the bladder, for thus it may more readily be discoverd.

Children recover more readily from this operation than adults. It is also observed, that old people, from the fifty-fifth to the seventieth year, whose constitutions have not been much broke, run less risk from it than men in the full vigour of life.

So early as the time of Hippocrates, the operation for the *stone* was practised, but the mode of performing it is not transmitted to us. Celsius is the first who describes the method of operating, when he lived. From the small number of instruments used in cutting, it has been termed the operation by the *lesser apparatus*. Some call it, *the Celsian method, cutting on the gripe, and the Guidonian method*. About the beginning of the sixteenth century, a new method of operating for the *stone* was suggested, which, from the great number of instruments which were employed in its first introduction, was called, *lithotomy, by the greater apparatus*; also, *Marianus's method, and the old way*. After this mode had been practised for about thirty or forty years, another mode was suggested by *Franco*, a French surgeon; this was called the *high operation, also Franco's method, and hypogastrica sectio*. Many inconveniences attending each of these methods of operating, another mode was invented by *Frere Jaques*, a French ecclesiastic, in 1697; but though this method was not generally received, it suggested to the celebrated *Chefelden*, what is called, the *lateral method* of cutting, which is now, with a few alterations, universally practised.

The operation by the **LESSER APPARATUS**, is thus performed: The patient being secured, dip the fore and middle finger of your left hand in oil; introduce them into the anus of the patient, and search for the *stone*, which found, push it forward towards the perinæum, directly below the pubes. This may be facilitated by pressing your right hand upon the under part of the abdomen, while, with your fingers in the rectum, you push the *stone* forward. Secure the *stone* upon one side of the perinæum, between the pubes and the anus, then make a semilunar cut, through the skin, cellular substance and muscles, beginning on one side the anus, and carrying the cut directly over the centre of the tumour, formed by

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the projecting *stone*. The bladder being thus laid bare, make a transverse incision through the coats of it, directly upon the *stone*, when, by pressing the fingers in the rectum on the *stone*, it will be forced out. *Heister* says, this method is practicable in boys under fourteen years of age. He always performed it on children, and recommends it to be practised on adults, when the *stone* causes a suppression of urine, by its adhering to the neck of the bladder; but otherwise, it is dangerous to adults. It is, however, seldom or never adopted in modern practice.

The mode by the GREATER APPARATUS was thus: The patient being properly secured, a grooved staff was introduced through the urethra into the bladder; the handle of the instrument was carried over the right groin, while its convex part was made to push out the urethra on the left side of the perinæum. The staff was preserved in this situation by an assistant, who likewise suspended the scrotum; while the operator, with a scalpel in his right hand, made an incision from the very bottom of the scrotum, to within a finger's breadth of the anus, carrying it along the left side of the perinæum, within a very little of the rapha. Now the urethra was opened at its bulb, by turning the back part of the knife towards the rectum, and cutting with the edge of it directly into the groove of the staff; and the incision was then completed, by carrying it along to the extremity of the urethra, at the commencement of the prostate gland. The wound was then dilated, and the *stone* extracted, in the same manner as in the lateral operation.

THE HIGH OPERATION, so called from the bladder being cut into above the osa pubis. The incision here, is made in that place lying between the middle of the bladder and its neck. Previous to performing this operation, as the bladder must be distended, the patient should accustom himself to retain his urine, and

and as soon as it is thought he can retain the necessary quantity (about a pound a half, if an adult) puts a ligature upon the penis ten or twelve hours before the operation, and let the patient drink plentifully of any diluent drink. This done, the patient should be secured by assistants upon a firm table, with his head considerably lower than his body, and his thighs and buttocks a good deal elevated. The patient thus secured, an incision is to be made with a round edged scalpel, directly upon one side of the linea alba, beginning about four inches above the osa pubis, and continuing it down to the symphysis of these bones. The muscles then come in view, and the incision may be carried on merely by separating them from one another; but if some of their fibres were cut, no detriment would ensue. The surgeon is now with his fingers to search for the bladder, which he will discover immediately above the pubes. With the fingers of his left hand, he must now press back the peritonæum with the intestines contained in it, and with a scalpel cut into the bladder at its most prominent part. The incision should be sufficiently large, to admit the two fore-fingers of the operator's left hand, which being introduced, the incision is to be enlarged to the length of about three inches, by a running a probe pointed bistoury along one of the fingers, down towards one side of the neck of the bladder. When the fingers are introduced into the bladder, the ligatures from the penis should be instantly removed. The incision being finished, the operator should extract the stone with his fingers in preference to the forceps. The stone being removed, the superior part of the wound in the teguments, ought to be brought together, by adhesive plasters or the twisted suture, leaving about an inch and a half in the under part of it open. The bowels should be kept open with laxatives, and during the whole

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cure, the head and upper part of the body ought to be kept considerably lower than the pelvis.

When there is reason to suspect the stone to be of very large size, perhaps this operation is preferable to the *lateral* one; but the mode by the *greater apparatus* should never be employed.

THE LATERAL OPERATION. Before you proceed to perform this operation, let the patient's bowels be thoroughly emptied, by giving him a laxative in the preceding day, and a glyster a few hours before the operation. The bladder, however, must be kept full, to which end, the patient should drink plentifully of some diluent liquor for several hours previous to his being laid on the table; and if he cannot retain his urine, a slight compression should be made on the penis. These circumstances attended to, lay the patient on a firm level table, of about three feet two inches high, about three feet eight inches long, and two feet and a half wide. When on the table, secure him thus: let a noose be formed in the double of a piece of broad firm tape, about five feet in length; the patient's wrists being introduced at this noose, he ought then to take a firm hold of the outside of the ankle of the same side, when, by different turns of the tape round the hand, ankle, and foot, his hand is to be effectually secured in this position; and this being done on one side, the hand and foot on the opposite side are to be firmly tied together in a similar manner.

The perinæum and parts about the anus being shaved, introduce a grooved staff, of a size proportioned both in length and bulk to the parts through which it is to pass. The stone being distinctly felt, not only by you, but also by your assistants, place the patient in the posture he is to remain during the operation. A pillow may be put under his head, and two, at least, under his buttocks, which should be made to project an inch or two over the end of

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the table. An assistant on each side should secure the legs and arms: one must prevent him from moving the upper part of his body; another must lay hold of the staff, and let a fifth be ready to hand the necessary instruments. Now touch the stone again with the staff, and pass the handle of it over the right groin of the patient, so that the convex part of the instrument may be distinguished on the left side of the perinæum. Let an assistant preserve it in this position, by holding the handle with his right hand, while with his left he elevates and supports the scrotum.

Now being seated between the patient and the window, make an incision through the skin and cellular substance, at least four inches long in a full grown person, and so in proportion in smaller sized people; beginning a little to the left side of the rapha, about an inch from the termination of the scrotum, and proceed in an oblique direction along the perinæum, till it is made to run at an equal distance between the tuberosity of the ischium and the anus, which last, it ought to pass about an inch. By this first stroke of the scalpel, the skin and cellular substance should be freely divided, so as to bring the subjacent muscles completely into view; when, by a continuation of the incision, the erector penis, accelerator urinæ, and transversalis perinæi, are also to be divided. The levator ani being intermixed with these muscles, will also be cut. This incision completed, with the index of your left hand search for the staff, and having found it, push the point of your finger along the course of it till you pass the bulb of the urethra, then with the edge of your knife turned towards the groove of the staff, divide the membranous part of the urethra in its whole course, from the prostate gland to the bulb. Now lay aside the scalpel, and with the cutting gorget divide the prostate gland, with a small portion of the neck of the bladder.

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Guide the beak of the gorget into the groove of the staff, by previously introducing the nail of the index of your left hand into the groove, then take the handle of the staff from the assistant, raise it considerably from the groin in which it lays, so as to form nearly a right angle with the body of the patient, and with your left hand preserve it firmly in this situation, while with your right hand you push on the gorget till it has passed freely into the bladder. Be careful that the beak of the gorget is exactly fitted to the groove in the staff.

The gorget having entered the bladder, withdraw the staff. Then endeavour to discover the situation of the stone with your finger, which will instruct you of the best direction for the forceps. If you cannot reach the stone with your finger, introduce a pair of forceps, of proportioned size, in the course of the gorget, and immediately withdraw the latter slowly, and in the exact direction by which it was entered. The forceps should be introduced shut, and when in the bladder they must be gradually opened, and moved easily about, sometimes elevated, and sometimes depressed, till the stone is discovered, when it must be immediately laid hold off. It sometimes happens, that the most expert surgeon cannot readily discover the stone by the forceps, especially when it is small. In such instances, it is sometimes met with near the fundus of the bladder; but it is most frequently found concealed in the under and back part of it, near to its neck. When it is found in this situation, nothing will bring it so readily into contact with the forceps as elevating this part of the bladder, by introducing the finger into the rectum. In extracting the stone, hold the forceps firmly with both hands, the right hand towards the extremity of the handles, and the left near to the common axis.

If the stone is broken by accident, or purposely when too large for extraction, be careful to extract every

every fragment of it: and as the forceps and scoop can only extract the large pieces, water of a proper heat should be injected to wash away the smaller particles.

As soon as one stone is extracted, introduce your finger, and then the forceps, to determine whether there are any more; and as long as any stones are discovered, the forceps must be repeatedly introduced till the whole are entirely extracted. In case any divided vessel should bleed profusely, pass a ligature round it, but not till after the stone or stones are extracted. If the vessel cannot be secured by a ligature, a firm roller may be introduced at the wound, or, what Mr. Bell prefers, a silver canula, well defended with soft linen. To prevent the inconvenience arising from blood collecting in the bladder, the patient should be placed in such a posture after the operation, as most effectually to evacuate any blood that may be discharged. The pelvis should be considerably lower than the rest of the body.

Any haemorrhage, that may have occurred, being stopped, insert a piece of soft lint between the lips of the wound, bring the patient's thighs together, and in that position let him be carried to bed. If in an hour or two, a severe pain is complained of in the under part of the abdomen, and does not yield to warm fomentations, with emollient and anodyne glysters, it is an alarming symptom. If the abdomen becomes hard and tumefied, and the pulse full and quick, the danger is great. It arises from inflammation, and must be treated accordingly. When these symptoms yield to this treatment, the patient will probably recover. In young healthy boys, the wound sometimes heals in about three weeks, but in some cases not till the seventh or eighth week. The treatment of the wounds should be as in similar wounds in other parts. To prevent the buttocks from being excoriated with the urine, let them be

frequently washed with ardent spirit, or lime-water. In weakly patients, an incontinence of urine frequently occurs after the operation. The cold bath, with bark, and generous diet, will generally remove this inconvenience.

WOMEN are seldom the subjects of the operation of the stone, but when they are, it may be extracted through the urethra, which may be gradually dilated to almost any extent by the use of tents, or by Mr. Bromfield's method, which is certainly preferable, when the method by dilatation is adopted. It is this: by the help of a straight blunt director, he introduced into the bladder, the closed end of the appendicula intestini cœci of a small animal; and leaving out the open end, at a proper length, he filled it with warm water by means of a syringe, and secured it with a ligature. He then made a twist or two of that part of the appendicula, which was left out, that the contained water might, by being pressed on, distend the close end which was in the bladder: an assistant was directed to draw it forward from time to time, and occasionally to give a fresh twist, so as to fill the end, contained in the bladder, more and more as the cervix vesicæ opened; by which process, continued for some time, the neck of the bladder was so opened, that the forceps might easily have been admitted if required; but it was not necessary, as the stone passed off with the urine. The parts were afterwards fomented with warm milk, and then with camphorated spirit of wine. No inflammation or other disagreeable symptom supervened. Vide *Bromfield's Observations and Cases*, vol. ii.

Mr. *Goode* gives an instance of extracting a stone of four ounces weight through an incision which he made from the vagina into the bladder. The wound soon healed by the use of soft balsamic injections, and no inconvenience was observed after the healing

of the parts. Vide his Cases and Remarks, vol. ii. p. 182.

Neither of these methods, however, have generally obtained. The following is the operation most commonly practised. The patient being placed on a table, and secured in the manner already directed, introduce a grooved staff into the bladder, by passing it through the urethra, which lies between the nymphæ, immediately below the clitoris; keep it firm with your left hand, and with your right, introduce the beak of the cutting gorget into the groove, and run it easily along till it has fairly entered the bladder. Now, as in male subjects, introduce your finger along the gorget, and having discovered a stone, proceed to extract it in the manner already described. Vide *Sharpe's Operations of Surgery*, and his *Critical Enquiry*; *Heister's Surgery*; *Bromfield's Cases and Observations*, vol. ii. *Le Dran's Operations*; *Heister's Dissertation on the High Apparatus*; and *Bell's Surgery*, vol. ii.

LUES VENEREA, *the Plague of Venus*, or *venereal disease*. Dr. Cullen names it *syphilis*, and places it as a genus in the class *cachexiae*, and order *impetigines*, which he defines, a contagious disease, arising after impure coition; and a disease of the genitals, ulcers of the throat, corymbose papulæ of the skin, particularly at the margin of the hairy scalp, running in scabs, and scabby ulcers; pain in the bones, and exostoses: of which he allows only one species.

Wherever this disorder attacks at the first, it is conveyed into the constitution by the lymphatics; if the infection is received by the penis, by means of the absorbent or lymphatic veins, the bubo happens in the groin; for the lymphatics of the genitals pass through the inguinal glands; if at the hand, the axilla will be the seat of the bubo, for the same kind of reason; if at the lips, the glands in the neck will tumify and inflame. This disorder never affects

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the viscera, but it attacks the bones; hardly a bone in the body but what has been injured by it, though most commonly it is seated in the thin bones, upper part of the skull, the bones of the arms near the joints of the elbows; and sometimes the knees, ribs, or even the spine; some external glands, the palate, nose, skin, or some other part not out of the reach of surgery, are the usual parts affected. It is probable, that the lacunæ are the first seat of infection; if so, the nearer the first seat of running is to the neck of the bladder, the more the urethra will be affected, the symptoms more severe, the discharge greater, and vice versa; for, wherever the seat is, betwixt that and the neck of the bladder escapes un-hurt. The inflammation and heat of urine is felt most near the glans, and the seat of inflammation and pain are most likely to be the seat of the discharge.

In patients of a thin habit, the symptoms and cure are worse and more difficult to manage than in the fat and plethoric. And in children, this disorder is worse than in adults.

It is always propagated by infection. The venereal matter must be applied in a fluid state, either to some part where the mucus is very soft, as it is in the parts of generation, &c. or to a wound or ulcer; or it may be given to a child from its mother during her pregnancy. The venereal matter almost always occasions a conversion of the mucus of the part, or of the fluids of the ulcer or wound, into a matter similar to itself; and when a sufficient quantity has been thus produced, it brings on an inflammation in the mucous membrane, or glands, or in the wound, or ulcer, and it is afterwards sometimes absorbed into the general system of the vessels; but very seldom before: the first symptom, therefore, appears in the part where the infection was received.

If children receive the infection from their mother, they are sometimes born with symptoms of the disease,

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ease, as inflammations of the skin, gonorrhœa, &c. but, for the most part, there is no appearance for several days, but in about a week, eruptions, with brownish spots or scabs, degenerating in ulcers, arise about the angles of the mouth, or other parts of the head, or over the body.

Women are not subject to so great a variety of symptoms as men are ; their chief complaints are, a difficulty of urine, and a running ; however, they are liable to chancres and warts, both within and without the labiæ pudendæ, as also buboes in the groin ; and sometimes a contraction of the sphincter vaginæ.

The first symptom observable in a fresh gonorrhœa in men, is usually an agreeable sensation in the whole, or the greatest part of the urinary passage ; at this time, no, or scarce any, discharge is observable on the linen : then an uneasiness about the parts of generation, together with an appearance of a little whitish, or rather water-coloured matter about the orifice of the urethra, when in the most favourable degree ; but often it is whitish, and differs in colour and consistence daily, becoming yellow ; then, if the virulence is great, it is greenish, and sometimes streaked with blood. When the running is visible, there is also an inflammation and swelling about the orifice of the urethra : this symptom is sometimes perceptible when no running appears ; in this case, there is a degree of pungency on the evacuation of urine ; the heat of urine is scarce perceived in voiding it, but immediately after, the patient feels an extreme heat throughout the whole duct of the urethra, but more especially at its termination in the glans. Spots appear on the linen, the edges of which are darker coloured than the centre ; *this dark margin is a principal mark to distinguish the venereal discharge from those arising from other causes.* From a defect of mucus in the urethra, the urine excites a smarting and pain there as it passes through. The matter discharged

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from the urethra increases in quantity. The inflammation at the end of the urethra increases too, as appears from the redness and hardness of the edge of its orifice. A tension and hardness is perceived through the whole length of the urethra, and a sensation of stricture in the penis, particularly during an erection. The matter discharged is thinner, loses its adhesiveness, and is more ill coloured. The inflammation often occasions a curvedness in the penis, and the stimulus, by which the inflammation is excited, occasions an erection too when the patient is warm in bed, and sometimes produces involuntary emissions ; this symptom is called a *chordee*, or a *priapismus*. If the inflammatory symptoms are violent, a strangury comes on. Sometimes an inflammation in the prepuce confines it from being drawn back, and thus forms a *phymosis* ; or being drawn behind the glans cannot be returned, and is then called *paraphymosis*. When the stricture from these two last symptoms is not speedily relieved, a mortification comes on the part, or the whole of the penis becomes œdematous, in which case, without great care, a gangrene follows. In all these cases, ulcers are apt to be formed. Thus the inflammation continues to increase generally for about a week or two. If the mucus that is discharged washes away the venereal matter faster than it is formed, the symptoms may continue in the same state for some time, and then gradually decrease, and at length a cure is effected. All these symptoms may occur, without occasioning the *Lues Venerea*, strictly speaking. Vide **GONORRHOEA**.

When the disorder does not terminate thus, ulcers are formed, or the venereal poison being absorbed, instead of a *gonorrhœa*, a *lues venerea*, or *pox*, is the consequence. When the *gonorrhœa* is long continued, it sometimes produces a stricture in the urethra, and occasions a difficulty in the evacuation of the urine, which is often attended with pain, the

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water flowing out in a small stream, or only by drops : sometimes it also produces an inflammation, and a disposition to contraction in the bladder, and the urethra also contracting, the stoppage is also increased : this generally goes off with a secretion of mucus from these parts ; but it may have the other progresses and terminations of an inflammation of the bladder, and often no such affection takes place, or if it does, goes off, and the stoppage and pain continue for years. The testicles, the inguinal glands, and other parts, are subject to phlegmōnous inflammations. Ulcers are formed in different parts of the body, as in the throat, occasioning hoarseness, or perhaps a deafness, from their situation on the orifice of the Eustachian tube ; or if these ulcers are very violent, they eat through to the bone, and soon after destroying it, a passage is formed from the mouth to the nose. Ulcers are formed in the skin ; they begin with a purplish spot or brown scab. When ulcers from this cause happen in the palms of the hands, the soles of the feet, behind the ears, about the anus, or the insides of the lips, they have the appearance of fissures ; they also coze out a thin matter, and are attended with great soreness and pain ; the scurf and scab with which these ulcers begin, are of a yellowish colour, inclining to brown, like the honey-comb ; it appears on several parts of the body, by which circumstance they may be distinguished from all others ; sometimes they are broad, resembling the descriptions given of the leprosy by some writers ; and the more this scurf spreads, the easier the patient becomes. All these venereal eruptions are small, and most frequently are formed on the temples or other part of the head, and when they scale off, they leave a mark nearly of a chocolate colour behind them. The venereal matter fixing on the eyes, produces an ophthalmia, and sometimes a loss of sight : falling on the ears, a deafness, and a caries of the bones follows. It very often happens, that the periosteum is affected, and when

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the patient begins to grow warm in bed, violent pains are excited ; these pains are seated in the head, and in the middle part of the bones of the limbs ; in the morning they abate, and during the day are rarely troublesome. Sometimes the periosteum swelling becomes hard, and forms those tumours which are called nodes. Excrescences also arise on the glans, penis, prepuce, anus, labia pudendi, &c. these are seldom painful. Various other symptoms appear, when no means have been used to check the progress of the disorders, but as mercury is so universally applied to, it is rare that even many of the above named appear in the same patient.

Some constitutions bear up many years under this disease ; but others sink under it soon, and are carried off.

The venereal gonorrhœa should be distinguished from that in which there is no infection ; from the fluor albus ; and from other increased secretions from the different parts subject to this distemper ; from the involuntary emissions of semen ; from ulcers in the urinary passages : venereal ulcers, pains, eruptions, &c. should be distinguished from those which arise, from any other cause.

The more regular the discharge from the urethra is made, the more mild are all the symptoms ; but if the running is small in quantity, or the matter of a yellow or greenish colour, it is virulent. If, upon pressing the penis, a drop of limpid liquor, resembling the white of an egg, is discharged, it indicates a safe cure.

As a preventive of this disorder, the following is recommended : Rx Aqua Kali, puri. 3j. solv. in aqua font. ffbj. & coda per chartam. Some of this solution is to be mixed with a tea-cupfull of warm water (so much as the mouth can bear without pain) then fill a syringe with the liquor, and inject it into the urethra, or vagina, retaining it there for about a minute ; then add to the remainder of the liquor a tea-spoonfull

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full of the solution, and wash the glans, prepuce, labia pudendi, &c. Lastly, inject and wash with warm water.

When the disorder is contracted, the indications of cure are, to destroy the venereal infection, and to remove the symptoms excited by it.

A gonorrhœa, if recent, is best managed, by first treating it as a topical inflammation; at the same time rendering the urine as soft as possible, by the use of demulcent drinks; such as a decoction of marsh-mallow root, or a solution of gum arabic in water.

The seat of the gonorrhœa is always in the inner membrane of the uræthra, but it may spread to the prostatæ and vesiculæ seminales, and by gently squeezing the penis, it may generally be discovered in what particular part of the urethra this disorder is seated; for either a hardness will be felt in the part, or the patient will complain of pain on almost any degree of pressure.

Purging with the natron vitriolat, or the ol. ricini, will be proper until the inflammatory symptoms abate; and then begin to rub the penis under the urethra, with the ungt. hyddragyr. fort. every night at bed time; or inject a solution of hydrargyrus in the mucilage of gum arabic, and rendered sufficiently fluid with linseed oil fresh drawn; repeat the injection three or four times a day, retaining it eight or ten minutes each time.

When injections are used, the patient should always make water first, for thus much of the virulent matter is washed away. The time to leave off injecting, is when the running no longer stains the linen with a dark-edged spot. The running does not always cease at this time, but though it continues a week or two, it gradually lessens.

During this time, avoid all excesses; let the exercise be gentle and moderate; the diet somewhat abstemious, or at least free from every degree of what increases the natural heat, or excites an extraordinary one.

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If this method cannot be conformed to, give a few cooling purges at proper intervals, and one of the following pills, or two, if the patient can bear them without affecting his mouth, or exciting any of the sensible excretions: R Calom. gr. j. antimon. tartariz. gr. $\frac{1}{2}$. cons. cynosb. q. s. f. pil. h. s. sumend.

When there is merely a discharge from the urethra, though arising from a venereal affection, mercury is seldom necessary. Treat it as a local inflammation; and when the inflammation is over, by the use of astringents, a cure will in general be effected. Vide GONORRHœA.

When an ulcer appears, or any symptom of the venereal matter being absorbed, the use of mercury is necessary. It should be so administered, that the whole habit may be affected by it, and yet none of the sensible discharges produced. It should be given so as to produce hardness, fullness, and a moderate frequency in the pulse, but nothing further; for mercury is most effectual, and speedily useful, when the patient's strength is not lessened by it. Salivation is by no means necessary, except the patient is so irritable, that the smallest quantity of mercury immediately affects his mouth.

In the worst cases, the mercury is best conveyed into the habit by inundation; but in less extraordinary circumstances, its inward use may suffice. The solution of hydrargyr. muriat. is most convenient when the patient must be exposed to the air; otherwise, preparations of crude mercury are to be preferred, or the pill with calom. & antimon. tartariz. above prescribed. If, without affecting the mouth, mercurials run off by the intestines, give the following pill: R Opii & antimon. tartariz. æ gr. $\frac{1}{2}$, cons. cynosb. q. s. f. pil. mane ac vesper sumend.

Sometimes it happens, that whilst the patient continues in the air of a large town, all means prove ineffectual; but soon after his removal into the country, he is restored to health. It is also most safe to

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continue the use of mercurials for four or five weeks, although every symptom may have disappeared.

Dr. Smith recommends the following concise method of managing a confirmed *lues venerea*: Give mercury only by way of alterative, and administer it as follows: R Hydragyr. calcin. gr. j. ad iij. fulph. ant. precip. g. ij. ad iv. extr. opii gr. ss. ad gr. j. conf. rofar. R. q. s. f. bol. omn. noct. hor. decubitus sumend.

During the use of the mercurial bolus, the patient should take half a pint of the following decoction four times a day: R Rad. sarsaparil. 3 iij. laureolæ 3 ij. coq. ex. aq. font. 1/2 iij. ad 1/2 ij. & cola.

During the cure, he directs that the patient be kept warm, use a light diet, drink plenty of broth and other thin liquors, and go frequently into a warm bath.

Sometimes the internal use of mercury produces uneasiness in the stomach and bowels, or passes off by stool too freely; in these cases, as well as on other accounts, the mercury may with equal advantage be applied, by rubbing the ungt. hydragyr. fort. on the skin.

Where the patient's strength is diminished, and where there are œdematos swellings, a free use of Peruvian bark is necessary.

In case of a woman's being pregnant, the same gentle method above recommended may be used with all the safety and advantage that follows it when this supposed impediment does not attend. The symptoms which occasionally occur, and require particular treatment, are these: *Bubo*, *Chancre*, *Chordee*, & *Hernia Humoralis*. For the treatment of these, vide the respective articles.

Caruncles in the Urebra. These rarely take place before the running is nearly stopped, if ever they are formed at all, for it is a cicatrix that is found on dissection; the ulcers in the urethra healing, leave a cicatrix which checks the free passage of the urine. A bougie passed up the urethra, a little beyond the place where it meets with resistance, and kept there

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an hour or more every day, is the proper method of cure. Sometimes a stricture in the urethra is mistaken for a caruncle, but the cure is the same.

Gumma, topbus, or nodus. These are tumours on the periosteum; the first is the softest; the last the hardest; they are most frequently caused by the venereal disorder; much pain attends them. The decoction of mezereon, is recommended as a radical cure; by the use of mercury, however they are generally removed, should they increase in size, and become inconvenient, they may be removed as directed in article *Exostosis*.

Ulcers. These are on the skin, or the mucous membrane; their edges are reddish, or sometimes of an ash-colour, but their surface is whitish, and their form irregular; they are sore or painful: if they are ill-treated, they easily become cancerous, and hardly admit of a cure, though they are easily brought to look well, and to have the appearance of a healing state. Rough medicines, and a too free use of mercury, produce the worst effects. Mild mercurials are always proper; if there is any morbid acrimony in the blood, demulcents should accompany the mercury; and the bark should never be omitted when venereal ulcers attend; though if there is an inflammatory habit, it should be removed by bleeding, &c.

Venereal, as well as other ulcers, are disposed to good granulation and suppuration by the use of the bark, given with the mercury. The bark alone, by destroying the irritability of the system, will make the ulcers put on a good appearance, and heal; but after a time, the disease will be apt to make its appearance again, so that we should never trust to any medicine but mercury.

Mercury will sometimes produce ulcers on the tonsils, uvula, and inside of the cheek, which do not look much unlike a venereal ulcer, viz. deep, with a loose slough, and unequal hard rising craggy edges, but

but appear superficial, i. e. more like an inflamed erosion. The bark, with cleanliness, will remove these ulcers in a few days.

Mr. Bell observes, in his Treatise on Ulcers, that those which he calls symptomatic, or that are the result of a venereal taint of long continuance, are singular in the appearance of their discharge, which is as follows: at first it is thin, but soon becomes tough and viscid; having a very loathsome, though not the ordinary foetid putrid smell, and a singular greenish yellow colour. In such ulcers as have an old pox for their cause, we should depend on the effects of mercury given internally, contenting ourselves with such external applications, as will keep the sore clean. In this manner, the different ulcers healing up merely by the use of internal remedies, proves, almost to a certainty, that the disease is eradicated from the habit; and further, it is the only proof that little or no more mercury is required. Venereal ulcers are apt to be inflamed, and then by the pain they occasion, are very troublesome; if this inflammation becomes considerable, bleed; but for the most part, a proper application of the saturnine poultice will suffice. The inflammation removed, the ungt. cereum. ph. Edinb. will be the only needful dressing. The pil. merc. ph. Edinb. is generally the best mercurial for inward use, but sometimes it fails, and then the hydrargyr. muriat. is generally more successful; it may be given in the form of pills, or solution. In some obstinate venereal ulcers, it sometimes happens, that various mercurial preparations are tried, before it is known on which to depend; but when a proper one is discovered, it should be used for some time after every appearance that is venereal has vanished. If the ulcer is seated near a bone, and fungous flesh appears in it, a caries may be suspected; in which case, besides the necessary treatment for carious bones, mercury must be

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administered. These ulcers are not unfrequently obstinate, and do not heal, although every venereal symptom has disappeared : here we may suspect the presence of some other disease, and that both have had their share in producing, as well as continuing the ulcer. As soon as the disease is discovered, the proper remedies for its removal must be directed ; and then a cure will soon be accomplished. It may be that the sores will not heal, though no other disease is attendant, but from the free use of mercury, &c. the body is enfeebled ; here the bark, with a nourishing diet, a pure air, and moderate exercise, may be tried, and usually success will be the result. If the sloughs on these ulcers are tough, dressings that gently stimulate, will be required ; e. g. R Ung. Resin. Flav. 3j. hydrargyr. nitrat. rub. 3ij. m. When the sloughs are cast off, and a proper discharge is produced, dress with such other means as the then state of the sore requires. When a gland is the seat of a general ulcer, a kindly suppuration is then difficultly produced, and sometimes a cure cannot be performed, without destroying at least all the hardened part of it. This is best done by repeated applications of the argent. nitrat. which may be repeated every third or fourth day.

Venereal ulcers, whether in buboes, chancres, or otherwise, when they appear cancerous, will gradually give way by the use of fresh air, a fuller diet, abstinence from mercury, or by means of hemlock applied outwardly, or given inwardly, whether with or without opiates. Sometimes, a more speedy effect has been observed from eating six or more lemons in a day. See some Observations of this kind in the Lond. Med. Trans. vol. ii. p. 338, &c. Venereal ulcers in the throat, may be conveniently relieved with the following : R Hydrargyr. muriat. gr. x. acidi. muriat. gut. v. tinct. lav. c. 3j. m. cap. gut. v—xx. bis diem in aq. puræ vel juscum. avenac.

Warts

Warts and Excrescences. When the infection is securely destroyed, these may be removed either by a caustic or the knife. If they are cut away, destroy their roots with the lunar caustic, if they are warts, or hardish; but the softer, rub them only with a mixture of quicksilver and lard, in equal quantities, or with the aq. phagæden. When the whole is destroyed, heal the ulcer as a common one.

Mr. Dease, in the fourth volume of the Edinb. Medical Commentaries, observes, how difficult it is to eradicate venereal warts; and at the same time, cautions against persisting very long in a course of mercury for their removal. He adds, that they continue after the venereal virus is effectually removed from the habit, so then they are merely local, and require no other treatment than such applications as will remove and prevent them from returning.

Pains in the Bones. These are most troublesome in the night. The decoction of mezereon is here effectual; but an opiate should be given at bed-time, until the disease is subdued. In this case, be attentive to the destruction of the venereal infection.

Phymosis. In the venereal disease, this is usually of the œdematosus kind; and besides the use of proper mercurials, the bark should also be given from an ounce, to an ounce and a half in twenty-four hours. In every kind of phymosis, let milk and water be injected between the prepuce and glans very often. If by a due use of proper means, the phymosis does not give way, it must be cut open with a knife: let the incision be on one side. If the phymosis has continued long, so that the prepuce is hard and scirrhouſ, the whole of the prepuce should be cut off. Externally, the application of Goulard's saturnine water, or other such like application, may be used to remove the phymosis in the beginning, but emollient poultices must be forborne.

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Paraphymosis. The same general method is proper here, that is directed for the phymosis. Vide Chapman's Abridgment of Astruc on the Venereal Disease. Fordyce's Elements, part the second. Falk's Tratise on the Venereal Disease. Fordyce's Review of the Venereal Disease. White's Surgery. Swediaur, Plenck, Foot, and Hunter, on Venereal Complaints.

M.

MORTIFICATIO, *a Mortification*; from *mors*, death, and *facio*, to make. Dr. Cullen considers the *mortification* (which he names *sphacelus*) not as a genus of disease, but as a mode of inflammation terminating. Mr. Pott observes, that a gangrene is in the cellular membrane and the skin, but that a *sphacelus*, or mortification, is deeper, attacking the muscles.

A thorough mortification, or last stage of a gangrene, is known by the diseased part becoming totally black, by its losing all pain and sensation, at the same time that it emits a considerable fetor; at last, a softness or flaccidity in general takes place, together with an entire dissolution of the different parts of which the organ is composed. When the parts continue mortified for a great length of time, without either turning flacid, or running into dissolution, it is called *a dry gangrene*, but these cases never occur from inflammation; they commonly happen from the flow of blood to such parts being put a stop to, by compression of one kind or another, as tumours, ligatures, or other similar causes, obstructing the principal arteries that used to supply them. The erysipelatous inflammation most frequently terminates in gangrene, and whenever phlegmon is in any degree conjoined with erysipelas, it seems to acquire the same tendency. To prevent mortification in every case of inflammation, endeavour to obtain its resolution or suppuration.

The immediate cause is, the reduction of the vital heat in the part to a certain degree below that which health requires.

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The mediate causes are, violent inflammation, which by the heat attending, so distends the cellular membrane as to compress the vessels, stop the circulation in the adjacent parts, and destroy the vital action there. The acrimony of the juices, by rupturing the vessels in an inflamed part, occasions an extravasation of blood, which putrefying, produces a *mortification*. A contusion, or wound of the spinal marrow, by preventing any further influx of the vital heat to the parts below where the injury is received, causes a *mortification* there. External compression, intense cold, compression from tumours intertially, poisons, &c.

The prognostics are to be taken from the patient's age, the attending disorder (if there is any) the circumstances of the *mortification*, the strength of the patient, a knowledge of the cause, the season of the year, &c.

In the treatment of gangrene, when no blood-letting or other evacuation has been prescribed during the preceding inflammatory state of the disorder, the pulse is full or hard, and especially if the patient is young and phlethoric, blood-letting, gentle laxatives, and a free use of acidulated cooling drink, become necessary. In the further progress of the mortification, the patient is apt to sink, and the pulse to turn languid, then *every evacuation, particularly of blood, should be directed with caution, never to a greater degree than may seem absolutely necessary for moderating such symptoms as at the time appear too violent.*

When the patient is much reduced, either by evacuations, or by the effects of the complaint, his pulse low, and no considerable symptoms of fever present, the cortex Peruvianus, in such doses, and as frequently repeated as the stomach will bear, with generous wine, must be directed. A full proportion of wine is far preferable to any of the stimulating warm cordials; but if the patient is much reduced, and

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and very languid, the volatile alkali, and confectionaria may be prescribed at the same time. With the bark, the vitriolic acid may be employed with advantage; the patient's drink may be acidulated with it.

The external application of the warm gums and balsams, ardent spirits, or other medicines called antiseptics, are prejudicial; the incisions also directed to be made to facilitate the operation of these medicines, may likewise do harm. All the advantages to be derived from external applications, may be obtained, by the use of any gently stimulating embrocation, such as a weak solution of sal ammoniac in vinegar and water, in the proportion of a drachm of the salt, to two ounces of vinegar, and six of water. The degree of stimulus can be augmented or diminished, by using a larger or smaller portion of the salt. Whenever the mortification runs deep, it is sometimes of service to make scarifications into the diseased parts, so as to remove a portion of them. Be careful not to carry the incisions the length of the sound parts.

When a separation is completely effected, treat it as a simple ulcer, with slight easy dressings, and support the strength of the system, by wine and generous diet.

In mortifications seated on the extremities, and penetrating to the bones, destroying the whole surrounding soft parts, amputation is often necessary. However, in general, amputation should not take place, until a separation of the mortified part from the sound is perceptible. But as soon as this separation has occurred, no time should be unnecessarily lost in having recourse to the operation; for so long as any of the corrupted parts remain in contact with the sound, the system must still be suffering by the constant absorption of the putrescent particles.

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There is a species of mortification incident to the toes and feet, in which the Peruvian bark has little or no influence; but opium, given in large doses, and frequently repeated, is a very effectual remedy. *Vide Pott's Works; Bell on Ulcers; Kirkland's Med. Surgery, vol. ii. and his Observations on Pott's Remarks on Fractures; Pearson's Principles of Surgery, vol. i. and White's Surgery.*

N.

NÆVUS, a Mole on the Skin. Also the tumour known by the name of a **WEN**, called also *encystis*. When a person is born with these moles or marks, they are called *nævi materni*. There are different species of the **WEN**. They are distinguished by their contents: 1. **ATHEROMA**. 2. **MELICERIS**. 3. **STEATOMA**. 4. **LIPOME**. The *Atheroma*, is colourless, containing in a cyst, a matter like pap, boiled rice, or curds, intermixed sometimes with hard corpuscles, and sometimes with a hardish matter like the chewed bones of chickens. It is of an irregular shape, not easily impressed with the finger, nor after impression does it easily rise again, in which it differs from the *meliceris*. If it resembles honey, it is called *meliceris*; and if it is like suet, it is denominated *steatoma*. The contents of the *lipome* resemble grease. As the *lipome* does not run between the muscles, nor posseſſ any considerable blood vessels, it may always be remoyed with ease and safety. As to the other kind of *wens*, their extirpation may, or may not be attempted, according as they are situated with respect to adjacent blood vessels. For the method of dissecting the tumour out, vide article *Steatoma*. In general, their contents may be evacuated, by making an incision through the whole extent of the tumour, and preserving it open, till it fills up with granulations from the bottom, or draw the divided edges of the skin together, and trust to moderate pressure, and the ordinary effects of inflammation, for a complete cure. Vide *Heister's Surgery* ; *Warner's*

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Warner's Cases in Surgery; Gooch's Cases and Remarks; White's and Bell's Surgery.

NEPHRITIS, from *νεφρός*, a Kidney. INFLAMMATIO RENUM, *an Inflammation in the Kidneys.* This disorder is not very frequent, for a determination of the fluids to the kidneys occasions an increased secretion of urine, sometimes mixed with blood, which prevents inflammation. Dr. Cullen places this genus of disease in the class *pyrexiae*, and order *phlegmasiae*.

The general causes are, whatever hinders the extremities of the arteries transmitting their fluid; as a wound, contusion, abscess, a tumour, a long continued defluxion, a small stone, &c.; whatever hinders the conveyance of the urine into the pelvis, ureters, and bladders; such as forcibly convey the thicker parts of the blood into the urinary ducts, as running, violent riding, excessive heat, an effort of the body, a plethora, acrid diuretics, poisons; a long continued spasmodic contraction of these vessels, &c. When these vessels are seized with a violent inflammation, they are often so constricted, that no urine can be discharged; or if a small quantity is evacuated, it is pellucid, thin, and aqueous, which is an unpromising sign; the nerves cohering to these vessels, and lying contiguous to them, being often irritated, pains and convulsions are produced in the stomach, mesentery, intestines, and uterus; hence arises eructations, nausea, vomiting, fluxes, iliac passions, retentions of urine, stupor, immobility of the legs, preternatural heat in the loins, &c.

A stone in the kidney usually excites inflammation in the internal membrane thereof, and in the tubuli uriniferi.

The inflammation begins with a pungent burning pain in the region of the kidney, that is in the back, near the articulation of the short ribs, higher up on the left-side than on the right, often shooting down by

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by the ureters to the bladder, and by the spermatic cord to the testicle; a fever; the urine is sometimes red at the first, but soon becomes pale, and is frequently discharged in small quantities, and that with difficulty, pain, and heat. Sometimes a redness appears externally; the thigh and leg of the affected side is seized with a stupor; the pain is increased upon standing, walking, coughing, lying on the opposite side, or in any other case where the kidney is moved, or the surrounding part extended; there is pain in the groin, and in the adjacent testicle; the pulse is hard and frequent, and, as the pain increases, it often becomes small, quick, and sometimes intermittent, with coldness of the extremities, cold sweats, sickness, bilious vomitings, fainting, delirium, convulsions, &c. The patient lies with the most ease on the affected side.

An inflammation in the kidneys should be distinguished from the gravel, a stone obstructing the ureter, an inflammation of the psoas muscle, or other adjacent parts, from the colic, and other inflammatory and spasmodic pains in the intestines.

If the disease is protracted beyond the seventh or eighth day, and there is a stupor or heaviness of the part, with frequent returns of chilliness and shivering, &c. there is reason to suspect that matter is forming in the kidney, and that an abscess will ensue.

If the urine becomes higher coloured, is secreted in a larger quantity, and at last is copious, thick, and mixed with mucus, a gradual relief follows, and thus the cure is effected. It may go off by a metastasis, or terminate in an abscess, mortification, or a schirrhous. Inflammations in this part often suppurate on the fourth day, if not prevented by either a natural, or an artificial attempt towards a cure; but yet these failing, an abscess may be begun so late as the fourteenth day. This abscess may be discharged into the pelvis, the abdomen, or externally through

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the integuments and the skin ; in the first case, if the matter is kindly, a cure may follow ; but otherwise an hectic destroys the patient ; in the second case, it is fatal ; and, in the third, an ulcer, of very uncertain cure, is formed.

When the presence of this disorder is once manifested, immediately bleed, and, in general, proceed, as in other internal inflammations.

Decoctions of parsley roots, infusions of linseed, or the Arabic emulsion, with a double quantity of the gum, are convenient as common drink ; and to prevent their palling the appetite, a little lemon-juice and sugar may be added, to render them grateful.

A moderately warm fomacium, and laxative glysters frequently injected, contribute much to promote the secretion of urine.

If inflammation appears externally, apply fomentations and poultices to the part affected.

In case of a suppuration, after the abscess is burst, the patient should drink freely of a decoction of marshmallow roots, or such like liquors, and take the bark freely.

If pains are excessive, give opiates to moderate them ; and if vomiting is troublesome, give tepid water, sweetened with honey, and let the patient drink small quantities frequently.

If a gangrene takes place, it is known by the violence of the cause of the symptoms, the want of relief by remedies, and the sudden remission of the pain without apparent cause, cold sweats, a weak intermittent pulse, hiccoughs, either no discharge of urine, or such as is livid, black, full of hairs, fetid, and foul, with a sudden and considerable loss of strength. In those cases, no cure can be expected.

Vide *Boerhaave's Aphorisms*, and *Van Swieten's Comments thereon* ; *Fordyce's Elements*, part the second ; *Brooks's*, and the *London Practice of Physic* ; and *Cullen's First Lines*, vol. i.

O.

ŒDEMA, from *oδεω, tumeo*, signifies properly any tumour; but is now generally confined to those serous tumours that are seated in the cellular membrane, and form partial anasarca swellings.

When the glands are diseased, the lymph cannot pass towards the heart, but goes to the lower extremities, merely from gravitation; and for want of a due absorption, the limbs swell.

When the vessels are not too much debilitated, rollers, or laced stockings, are useful.

ŒDEMA ERYSIPELATOIDES, is that cedematous tumour which is white, pellucid, and accompanied with heat.

Dr. Kirkland, in the first volume of his Inquiry, speaks of an inflammatory *œdema* which comes on suddenly, and is sometimes accompanied with an erysipelas, or more commonly, a simple inflammation of the skin. He describes it as a cold, indolent, doughy humour; and in order to its cure, requiring discussion. He observes, that an *œdema* is always local; it is always confined to one place, or member.

It is sometimes caused by a metastasis of inactive matter from the blood and other juices; sometimes from nervous affection.

Distinguish this disease from the anasarca.

In an *œdema*, which comes on suddenly, and is of short duration, the fluids have not had time to become viscid in the cellular membrane; they are there-

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fore easily set at liberty, and the inflammation disappears as the swelling subsides.

As an external application, a cerate may be made of the empl. e min. f. sera. & ol. oliv. As soon as the swelling begins to subside, apply a bandage, and gradually increase its tightness as circumstances will permit. Over night give small doses of calomel, and next morning a purging draught, in which is dissolved a proper quantity of the kali tartariz. Sudorifics, or diuretics, may be given to hasten the cure; which, when tolerably advanced, will require the bark; this, at first, should be accompanied with the kali acetatum; but when evacuation is no longer required, the bark may be given alone. *Vide Kirkland's Med. Surg. vol. i.*

OPHTHALMIA, from *οφθαλμος*, an eye. **INFLAMMATIO OCULI.** *An Inflammation of the Membranes which invest the Eyes*, particularly the *adnata*. The inner coats, however, are sometimes the seat of the inflammation. Dr. Cullen distinguishes two species of ophthalmia, viz. *Ophtalmia membranarum*; that is, when the tunica adnata, and membranes lying under it, or the coats of the eyes, are the seat of the inflammation; and *ophtalmia tarsi*, when the inflammation is attended with tumour, erosion, and glutinous exudation of the tarsus, or edges of the eye-lids. He also considers all the cases of *ophtalmia membranarum*, as the same disease, differing only in situation or degree, and curable by the same means more or less employed.

Any of the causes of external inflammation, may produce the same in the external coat of the eye; and the same causes which produce this disorder in other internal parts, may also produce it in the inner membranes of this organ. Accidents from without, as cold air, dust, too much exposure to vivid colours, blows, wounds, &c. and as internal causes, the measles, and small-pox, scrophula, &c. are all occasionally the causes of this complaint. The red ves-

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feels in the eye are increased in their size, and there appear many more than did in their natural state. There is pain which is increased on the least motion, which produces weeping. When the affection of the adnata is considerable, it is communicated to the subjacent membranes, even to the retina by which its sensibility is increased, and the least degree of light becomes painful.

In the cure of the above species of inflammation in the eye, when a flux of humours attends, it usually abates by whatever relieves the inflammation, and, in general, to consider and treat these disorders under the simple idea of inflammation, will be the most proper and easy; as to particular circumstances, they are to be treated according to their respective natures, as directed here, and in other articles, or as the prescriber's particular experience may direct. Dr. Kirkland, in the first volume of his Inquiry, observes, that "like all other inflammations, it gives way to those remedies which remove the irritating cause, and lessen the sensibility of the parts."

All heating, spirituous, and aromatic food must be avoided; a cooling liquid diet will be necessary; a freedom from all forcible exercise must be enjoined; and the eye may be shaded from the light, and all glaring objects, by means of a stiff paper, lined with black silk.

Bleed according to the strength and quickness of the pulse: besides taking blood from the arm, leeches may be applied to the external angles of the eyes. Opening the temporal artery is very generally advised. Mr. Ware observes, that the two following difficulties attend it: 1st, It frequently will not yield a quantity of blood sufficient to answer the intended purpose. 2d, The troublesome and dangerous haemorrhages which have sometimes burst from the orifice, at the distance of many hours from the operation. He farther observes, that considerable

advantage has followed a complete transverse division of this artery; by which the patient not only received benefit from the sudden derivation of a large quantity of blood, but one principal source from which the blood circulated to the inflamed part, was cut off. The external jugular vein has also sometimes been opened in this complaint; but as it does not come from the eye itself, it does not yield a very direct derivation. As to leeches, when they are applied to, or near the eye-lids, they have sometimes occasioned them to swell to a large size, and have increased, for a time, the irritation of the eye; to prevent which, when they are applied near the eye, confine them, as near as possible, in the hollow of the temple, about an inch and a half from the outer orbit. Dr. Kirkland thinks, that any other bleedings than from the arm, are not attended with superior advantage; as to leeches, he says, they leave an inflammation behind, and occasion a greater irritability in the neighbouring parts. Dr. Cullen says, that in many cases a very effectual remedy is that of scarifying the internal surface of the inferior eye-lid; and still more so, is cutting the turgid vessels, upon the adnata. This is a very delicate operation, and should never be performed, unless the Surgeon has a very steady hand. As soon as blood is taken away, let a cooling purge be given; and small doses of the natron vitriolat. may be repeated every day after, so as to procure a few stools, until the violence of the symptoms give way. Particularly, be careful to avoid strong purges. A blister, when applied to relieve inflammation in the eyes, is most effectual when laid upon the fore-part of the head, and kept open a few days; apply the plaster from the crown to the forehead, having first shaved the part. Dr. Kirkland is of opinion, that blisters, like leeches, are prejudicial, by increasing irritability where they are applied, and to some extent around them. The feet

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feet and legs may be placed in moderately warm water every night. A feton, or issue in the neck, may be employed with advantage.

As an external remedy, the vegeto-mineral water of Goulard, is almost the only one needful; begin with it very mild, and increase its strength so as to avoid irritation. Whether inflammations are phlegmonous, scrofulous, cancerous, or erysipelatous, from bruises, &c. this water is of singular efficacy. White vitriol is the usual remedy in these cases; it cools, dries, and restringes; it is very useful when there is a defluxion, or an inflammation in the eyes, but the disorder should be giving way before its use is begun with; bleeding, purging, and every proper evacuation, should also have preceded. The solution should be weak at first: about ten grains of the vitriol, to four ounces of common, or rose water, will be sufficiently strong to begin with. It may be made stronger gradually. Camphor is sometimes added, with advantage. Blue vitriol is useful when the humours are thick, and formed into sordes; and when they begin to form small membranes in the tunica albuginea, which frequently happens after the small-pox and the measles; in such cases, a grain or more may be added to an ounce of water: but it should be omitted in all instances of inflammation attended with saline, hot, acrid defluxions, with redness and itching, because it increases these symptoms. When the inflammation is deep, violent, and dangerous, the eye being almost deprived of sight and sensibility, happy effects have been found from the use of tepid camphorated spirit of wine, mixed with the Peruvian balsam. Weak solutions of camphor abate these inflammations, but a free use of it increases them. Dr. Kirkland recommends a small quantity of patron vitriolat, in fine powder, to be blown into the inflamed eye: he observes, that at first the inflammation seems to be increased by it, but soon a discharge of lymph follows,

follows, and the next day, the inflammation is much abated or gone. Opium is said, by some, not to ease pain in the eye; but that this symptom is relieved by the external use of aloes; however, it is clear from experience, that small quantities of opium, mixed with any cooling liniment, speedily abates inflammation in this organ. Mr. Ware strongly recommends a few drops of the *tinct. opii. Ph. Lond.* to be dropped into the eye, once every day. I have long adopted this practice with singular success. Dr. Kirkland observes, with respect to it, that "with due perseverance, it sufficiently answers our intention, where it can possibly do service, without occasioning pain. It may be used with advantage where the sensibility in the beginning is often exquisite, and few other remedies can be applied without giving offence." When a corroding acrimony is observed in the humour that is discharged, the eye may now and then be washed with a thin solution of gum arabic; or the mucilage of quince seed. If the eye remains very weak, after the inflammation abates, the best application is a solution of alum in the proportion of a dram to half a pint of water, with the Peruvian bark internally; and to finish the cure, the patient may bathe in the sea, or cold water may be poured upon his head every morning for some time.

When films attend, or are followed by defluxions on the eyes, or when the transparency of the cornea is diminished, borax proves an admirable means of relief, and may be used as follows: *R Boracis opt. 3ss. facch. alb. 3j. aq. rosar. 3ij. m. f. collyr.* Let a little of this be frequently dropped into the affected eye. Or either of the following preparations may be used for the same purpose: *R Æruginis pp. gr. iv. ammoniæ muriat 3ss. aq. calcis recent 3vij. m. Vel, Liquoris hydrargyri muriat. gutt. j. Aq. Distillat. 3jv. Vel, R Hydrargyri nitrati rubri, lapidis calamina.*

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pp. $\frac{1}{2}$ 3jss. lythargyri levigati 3j. tutiæ pp. 3fs: hydrargyr. sulphurat. 3j. bene commisceantur, deinde adjiciantur, adipis suillæ 3ij. balsam Peruviani, gtt. xv. misce. This last is called *Pellier's Ointment*.

When pimples on the eye attend an inflammation, a solution of vitriolated zinc, will generally remove them. If the pimples contain matter, let it out with the point of a lancet, and wash them with the vitriolated solution; or, & Ungt. sperm. ceti 3v. cerusæ acetataæ 3j. quibus super porphyrite simul tritis instillentur tinct. benzoin comp. 3i. hujus palulum, linteo exceptum, oculo dolenti omni nocte imponatur.

When a blow is the cause, and a blackness remains about the eyelids, & Conf. resar. rub. 3ijj. tinct. opii. 3ij. m. *Vel*, & Acet. distill. 3ij. aquæ ammon. 3jss. m. is useful. In Gooch's *Cafes and Remarks*, there is an instance of relief, when the tunica albuginea was inflamed so as to resemble, if not constitute, the chemosis. A gouty *ophthalmia* requires that the gout, if possible, be brought into the extremities, and then the disorder in the eye immediately vanishes; if the inflammation is violent, bleed, purge with alectics, and wash the eye with a mixture of tepid water two parts, and brandy one part. When a translation of rheumatic matter from the hip, or elsewhere, is the cause, blisters may be applied to, or near the part whence the rheumatism receded; a drain made in the neck, by a cord, or pea, and the bark, with guaiacum, may be given. In the scrofulous inflammation of this organ, the bark is the sovereign remedy: if in this case, the glands under the ears are affected, apply a caustic on one of them, and then another, if there are more than one, and the consequent discharge will soon remove the inflammation; proper alteratives, as required, may accompany the bark; and the head should be washed every morning with cold water. Nitre, given to a scruple three times a day, has been

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been found to be remarkably efficacious in this as well as in the common *ophthalmias*. The venereal *ophthalmia* admits not of vitriolic collyriums; it calls for the speediest aid, which should consist of bleeding; an inward use of mercurials; the warm bath night and morning; purges repeated every day from the first day of bathing, until the inflammation abates, if other circumstances do not forbid; compresses squeezed out of brandy and water may be constantly kept on the eye.

As far as the **OPHTHALMIA Tarsi** is produced by the *ophthalmia membranarum*, the same remedies are necessary. The erosion and glutinous exudations which affect the eye-lids in this species of *ophthalmia*, may be relieved by the lapis calaminaris, mixed with an equal quantity of some emollient ointment. But the most effectual application is an ointment, composed of one ounce of quicksilver, and four ounces of fresh hog's lard, well triturated. With a little of this ointment, the ulceration on the eye-lids should be covered night and morning, by means of a pencil; at the same time, a small portion may be insinuated, between the upper and under eye-lids; and weak saturnine, or vitriolic solution, should be employed once or twice daily, for bathing the parts.

Vide *Gooch's Cases and Remarks*; *Ware's Remarks on the Ophthalmic*; *White's Surgery*; *Bell's Surgery*, vol. iii. *Kirkland's Inquiry*, vol. i. *Warner on the Eye, and its Diseases*; *Cullen's First Lines*, vol. i. and *Wallis's Sauvages's Nosology of the Eyes*.

OPHTHALMIA MUCOSA. *The Mucous Ophthalmia.* It is a variety of *ophthalmia* of the membranes of the eye, though not in Dr. Cullen's Nosological Arrangement. Mr. Ware calls it the purulent eye, but owns that the term is not to be strictly understood; he says, "the discharge from the eye is not real pus, but only

only mucus increased in quantity, and altered in colour."

This disorder rarely happens, except to new-born children; in whom, Mr. Ware observes, that it first discovers itself by a redness in the eye-lids, which quickly swell to a size so large as to prevent their being separated, without the utmost difficulty; after which, a constant discharge of thick yellow matter soon succeeds; which, if the lids can be separated, will appear to spread over the eye, so as entirely to cover it. In common, both eyes are affected nearly in the same manner; and in bad cases, whenever the child cries, the inside of the lid is turned outwards; which is also the case, whenever an attempt is made to separate them with the fingers: this is sometimes the constant state of the lids, and though they are restored by the fingers to their proper situation, yet on being left to themselves, they immediately return to their former everted state.

Occasionally, this complaint is accompanied with eruptions on the head and other parts of the body; and sometimes is attended with symptoms of a scrofulous habit.

The swelling of the eye-lids, necessarily occasions a tightness, or constriction of their ciliary edges, by means of which, the matter which is formed in the inside of them, is prevented from wholly running off; and its continuing between the lids and the globe, serves still farther to increase the inflammations, and is also the frequent cause of ulcers and specks, which very often partially, and sometimes totally, cover the pupil. These effects may, in a great measure, be produced by the acrimony of the matter; but even allowing, that the retained fluid is perfectly bland and mild, its continual lodgment on the eye is sufficient, by maceration only, to destroy the transparency of the cornea, and when it has been joined with the pressure of the swollen eye-lids, it has been known

to cause the cornea to burst, the humours to be partially or wholly discharged, and the eye, of course, to sink in the orbit. To this accurate description of Mr. Ware's, it may be added, that usually, if left to nature, the quantity of *mucus* gradually increases until about a tea-spoonful of it may be squeezed from each eye every day; soon after this, if no extraordinary symptoms attend, the *mucus* decreases, and without art a cure is effected.

This kind of inflammation may arise from any of the causes that produce external phlegmonous inflammations. Mr. Ware observes, that the tunica conjunctiva is defended from the acrimony of the tears by a soft thin *mucous* fluid, which is supposed to exhale from innumerable small perforations dispersed all over its surface. This fluid, as it naturally exists, is very small in quantity; on which account, as it is pellucid, it is undiscernable by the naked-eye; nevertheless, it is liable by an irritation or inflammation of the parts which furnish it, not only to be increased greatly in quantity, but to be so altered and changed in quality, as very much to resemble pus itself, both in consistence and colour. This inflammation is not often connected with any other disorder, and is most frequently supposed to arise from the child's being imprudently exposed to the cold air.

When early assistance has been given, its consequences are generally successful; but when neglected, a partial blindness at least, and too often a total one, has been the consequence. Like all inflammations of the eye, it is apt to terminate in an opacity of the cornea.

In order to the cure, it is recommended by some to wash the *mucus* out of the eye, whilst in a tender inflamed state, with a collyrium of equal parts of the common emulsion and julep of camphor. Others with a syringe wash out the *mucus*, but prefer mild fluids, such as warm barley-water; and until the

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swelling of the eye-lids subside, they apply to them cooling ointments and emollient cataplasms; at the same time, they repeat gentle purgatives as often as the patient's strength, &c. seems to require. Leeches are applied to the temples, and a blister between the shoulders, is kept open as long as a tendency to a discharge of *mucus* in the eye appears. When the turgidness of the eye-lids abates, and the inflammation of the conjunctiva disappears, the decoct. cort. Peruv. is given inwardly, and collyriums directed that are of an astringent kind, and used three or four times a day. Though blisters are generally applied, some have from an extensive practice concluded, that their constant omission would be no disadvantage to the patient. Mr. Ware proposes on the first attack to begin with resisting the discharge of *mucus*, by strengthening the external coat of the eye. To this end, he directs the eye to be cleared of the morbid *mucus*, by injecting into it by a syringe, a gentle astringent collyrium; in particular, he prefers the aq. cupri, vitriolat. camphorat. diluted with common water, in the proportion of a dram, less or more, to two ounces. This practice he uses in all the stages of the disease. As the matter increases, the collyrium may be used more frequently, and gradually increased in its strength: in a slight case, it may be used two or three times a day, but in the more malignant ones, it may be repeated every hour, and the stypicity of the collyrium may be increased in proportion; as the disorder gives way, the strength of the medicine, and the frequency of using it, may both be decreased. To abate the swelling of the eye-lids, Mr. Ware prefers a cataplasm of the coagulum aluminos. & ungt. flor. samb. an. p. æq. this should be applied cold. When the eye-lids adhere strongly, they will be best separated by washing their edges with fresh butter dissolved in warm milk. If the inside of the eye-lids turn outward, only when the

child cries, and returns as soon as it ceases so to do, nothing more need be done than what is already recommended; but if this symptom is constant, it will require a more frequent repetition of the injection, and to employ a person immediately after the use of it, to return the lids, and to keep a compress dipped in the diluted aq. camph. constantly upon them with his finger, in order that the habit may be removed, and the eye lids may recover their proper tone and strength. When the inside of the eye-lid is much inflamed, the tinct. opii. may be dropped on them with advantage every day; and when the quantity of *mucus* is so diminished, that the tincture may come in contact with the eye, it may be applied there also once a day. If there is reason to suspect any particular humour in the habit, give such alteratives as their nature may appear to require.

Mr. Ware gives an instance of a case, in which blood instead of *mucus* was discharged, and which gave way to the same treatment as is here recommended. Vide *Ware's Remarks on the Ophthalmmy, &c.* and a *Treatise on the Eye and its Disorders*, by *Joseph Warner*, edit. 2.

OTALGIA, from *οὖς*, an ear, and *ἄλγεα*, pain. A pain in the ear. This disorder affects the concha, and the whole meatus auditorius. It is attended with inflammation, tumours, punctation, erosion, tension, pulsation, and a sense of weight. Dr. Cullen places it as a variety of *phlogosis phlegmone*.

Extraneous bodies falling into the meatus auditorius, or what ever excites pain in other parts, may cause it here.

The quality of the wax may be faulty, and be a cause; but the most frequent causes are heat and cold, sometimes an acrid serum is secreted in the glands of the ear.

When the wax, or other humours are saline, they excite a pricking pain; when the salts in these hu-

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hours are corrosive, they excite a gnawing pain; when the wax ferments whilst it is yet in the glands, it causes a tensive pain; when the glands are very turgid, there is a sense of weight; and when there is a tumour, a pulsation is perceived, especially if it tends to suppurate.

If the pain is violent, it seldom fails to bring on a fever, which is early attended with great restlessness, and a delirium, fainting, and often convulsions are the consequence; for the membrane that lines the ear are exquisitely sensible, and fully stored with nerves, besides, membranes which adhere to bones, have a more than ordinary sensibility.

In the beginning, whilst the pain is not very considerable, a little warm olive oil dropped in the ear, will often relieve. If cold is the cause, keep the head warm. If there is inflammation and tumour, which will be known by the throbbing pain, a suppuration may be encouraged by cataplasms, applied warm on the outer ear; but if the state of suppuration is not manifestly near, endeavour by bleeding, purging, and discutients applied to the ear, to remove the inflammation and pain; if external heat was the cause, bleed, and give daily a moderate dose of Glauber's salt as a purge until the pain abates, or until there is reason to suspect a suppuration; an opiate may be given at night when the pain is violent. When acrid fluxions are the cause, inject a warm infusion of poppy-heads in water. When living insects have crept into the ear, blow the smoak of tobacco therein, and then pour in warm oil. If purulent matter discharges itself, inject tepid water, mixed with a little soap, or honey of roses. Besides the above-mentioned, blisters behind the ears, bladders of warm water laid on the affected ear, and the pediluvium, are occasionally useful.

Vide *Lobb* on Painful Distempers. *Brooks's*, and the London Practice of Physic.

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PARACENTESIS, from *ταραντίων*, to make a perforation. This operation is commonly called TAPPING, and is used for discharging water through the teguments of the belly, from its cavity. The presence of a fluid in the abdomen is known by the swelling it produces; by a sense of tightness in the parts affected; by the breathing being difficult and laborious, especially when in an horizontal posture; and by a sense of fluctuation being communicated to the fingers placed on one side of the abdomen, when the swelling is forcibly struck on the opposite side. A concurrence of these circumstances point out the real nature of the disorder; but a farther confirmation of it is obtained, when the patient complains of much thirst, a dry skin, scarcity of urine, and other symptoms of dropsy. As soon as a fluctuation is distinctly felt, the operation may be performed. Perhaps if it was always recurred to at an early period, an effectual cure might frequently be obtained.

A sudden discharge of any kind of fluid, wherever situated, but particularly in the abdomen, is hazardous, producing syncope, and sometimes death. This is, perhaps, owing to the immediate influence produced upon the circulating system, by a considerable part of it being too quickly deprived of a support which it has long been accustomed to receive. To obviate this inconvenience, equal pressure must be made upon the parts affected; for which purpose, Dr. Monro invented a bandage, with straps and buckles. *Vide Bell's Surgery*, vol. ii. plate xxii.

A flannel

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A flannel roller, or flannel laced round the belly, however, is fully adequate to the required pressure. The roller being applied, place the patient in an horizontal posture, take a trocar in your right hand, and fixing the head of the stilette in the palm of it, immediately below your thumb, while your finger directs the point of your instrument, push it forward, at a point lying nearly at an equal distance, between the umbilicus and the centre of the spine of the ilium, till there is no farther resistance to the stilette. Now withdraw the stilette, and let the water flow as long as any of it can be drawn off, gradually tightening the roller as the water is discharged. If, notwithstanding this precaution, the patient should turn faintish, apply your finger upon the mouth of the canula for a few minutes every now and then. If a portion of intestine, or omentum, should plug up the extremity of the canula, introduce a blunt probe into it, and remove whatever occasions the obstruction. Sometimes the serum is gelatinous; in this case, a trocar of a larger size than the first must be employed. Sometimes the water is in cysts, in such circumstance, withdraw the canula, cover the wound with a pledgit of any simple ointment, and renew the operation immediately, or on the following day, on the opposite side of the abdomen; or if the swelling should be confined to any other part of the belly, make the perforation in the most depending part of it.

The water being all drawn off, dress the wound, and let the roller be continued of a sufficient lightness, to prevent any uneasiness from the evacuation of the water. This operation may be performed as often as the water collects to any considerable size.

Dropsical swellings of the OVARIA require this operation. The fluctuation of the fluid in this case is not so evident, and unless accompanied with ascites, the swelling is commonly fixed on one side of the abdomen.

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Mr. Bell is of opinion, that this operation should be performed for **TYMPANITES**, rather than allow such patients, as labour under it, to die in certain misery.

Three or four days after the operation of tapping, either for ascites, or air, much advantage may be derived, from removing the roller daily for about a quarter of an hour, and rubbing the abdomen with strong frictions, with some astringent spirituous applications, taking care to preserve the body in a horizontal posture, and apply the bandage again, as soon as the friction is over. *Vide Sharp's Operations; Bell's Surgery, vol. ii. and White's Surgery.*

PARAPHRNETIS. *An inflammation of the Diaphragm, called also DIAPHRAGMATIS.* Its causes are whatever can excite internal inflammation. The pain is very violent and deep seated in the lower part of the breast; or under the short ribs, or striking between them and the back; the fever is very acute, and the delirium is constant; the belly is drawn up, and kept as much at rest as possible; the respiration is excessively quick, erect, small, suffocating, and difficult, and performed principally by the muscles of the breast; the patient is frequently affected with sickness and hiccough, and often with involuntary laughter, convulsions, and madness; the pulse is usually very frequent and small, often irregular; there is great anxiety; the symptoms of irritation come on, and death frequently ensues: if this does not happen, the progress, termination, and manner of treatment are much the same as in the pleurisy, by bleeding largely, antimonial preparations, &c. emollient glysters are peculiarly useful. The pain is greatly augmented during inspiration, coughing, sneezing, repletion of the stomach, nausea, vomiting, and a compression of the belly in discharging the fæces and urine. The risus sardonicus, convulsions, madness, and gangrene, often terminate the disease.

Sometimes

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Sometimes a purulent ascites is a consequence. If suppuration threatens, encourage it by means of fomentations and poultices, &c. Vide *Fordye's Elements*, part ii. and *Cullen's First Lines*.

PARONYCHIA. *A whitelow, or whiteflaw, from παρ, near, and ὄνυξ, a nail.* It is also called a felon. It is an abscess at the end of the fingers. It differs not from an abscess in any other part. According as it is situated, more or less deep, it is differently denominated, or divided into species by some writers. Dr. Cullen places it as a variety of the *phlegmone*.

It begins with a slow heavy pain, attended with a slight pulsation without swelling, redness, or heat; but soon the pain, heat, and throbbing are intolerable; the part grows large and red; the adjoining fingers, and the whole hand swells up; in some cases, a kind of red and inflated fuse, or streak, may be observed, which beginning at the affected part, is continued almost to the elbow; nor is it unusual for the patient to complain of a very sharp pain under the shoulder; and sometimes the whole arm is excessively inflamed and swelled; the patient cannot sleep, the fever, &c. increasing, and sometimes delirium or convulsions follow.

When it is seated in the skin or fat, in the back or the fore-part of the finger, or under or near the nail, the pain is severe, but ends well. When the periciteum is inflamed or corroded, the pain is tormenting. When the nervous coats of the flexor tendons of the fingers, or nerves near them are seized, the worst symptoms attend. The second species proves very troublesome, and sometimes ends in a caries of the subjacent bone. The third species is very tedious in the cure, and sometimes the phalanx on which it is, is destroyed.

If the first kind suppurates, it must be opened and treated as abscesses in general; but the best method

of treating the other two species, is, on the first, or at farthest, the second day, to divide the part, where the pain is seated; if this operation is longer deferred, a suppuration will come on; in which case, suppuration should be speedily promoted, and as early a discharge given to the matter as possible. As the pain is so considerable as to occasion a fever, and sometimes convulsions, the tinct. opii may be added to the suppurating applications, and also given in a draught at bed-time, and oftener if necessary. Vide Kirkland's Med. Surgery, vol. ii. Bell's Surgery, vol. v. Pearson's Principles of Surgery, vol. i. and White's Surgery.

PARORCHIDIUM. *A detention of the Testicles*, as when they have not yet descended into the scrotum. The testicles are sometimes detained in the body; this case is called *cryptorchis*; or concealed testicles. Sometimes the testicles (one or both) are detained in the groin; usually about the time of the child's birth, they descend into the scrotum, in some instances a little before birth, in others soon after. But this is very uncertain with respect to different persons; also in the same person the two testicles will considerably vary as to the time of their descent. Sometimes one, at others both, are detained in the belly, or stick in passing through the groin. These accidents happen and continue a longer or lesser time after the birth; and in some instances never pass down into the scrotum. Mr. Pott takes notice of this case, and gives several instances of it in the quarto edition of his works; where he says, that he knows not of any particular inconvenience arising from the detention of a testicle, within the cavity of the belly; but the lodgment of it in the groin, renders it liable to be hurt by accidental pressure, &c. When it is so hurt, it may be mistaken for a different disease, and thereby occasion it to be very improperly treated. To which considerations, he adds, that there is no kind of disease,

case, to which the testicle is liable in its natural situation, but what may also affect it, in any or all its unnatural ones. In the first case, related by Mr. Pott, a testicle being detained in the groin of a young healthy seaman, who hurt the part by hitting it against a piece of timber; the humour there became extremely painful, and was taken for a bubonocele, from which it might have been more readily distinguished by the following circumstances, had not the extreme tenderness of the injured testicle absolutely prevented any examination there by the touch; and the very hard swelling of the scrotum, which prevented any certainty of a testicle being there or not. But Mr. Pott here says, that the tumour in the groin did not, like the bubonocele, point obliquely from the ilium towards the pubes, but lay, as it were, across the groin: also, as necessarily must happen, that when the scrotum became soft, no testicle could be felt in it. Two striking circumstances by which to distinguish the detained testicle from the bubonocele, and also to determine the nature of the case. In the earlier part of this young man's life, this detained testicle had been mistaken for a rupture, and a truss had been applied to it. The second case, the testicle was detained in the groin; this patient had also been advised to wear a truss on the supposition that the case was a rupture; but he could not wear it, because of the pain it occasioned. At length, getting a clap, this detained *testicle* inflamed, forming an hernia humoralis, which was mistaken for a bubo. In this case, the tumour was moveable, and the scrotum, on that side, had no testicle in it, two circumstances sufficient for distinction and determination. Both the above cases were cured as inflammations of the testicles are, when their situation is in the scrotum.

PERINEUM, from *περινευω*, to flow round. Because that part is generally moist. It is the space between the anus and parts of generation.

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Puncture of the Perineum. This is an operation for such a suppression of urine, as cannot be relieved by any gentler method. Various modes have been proposed for procuring a discharge from the bladder; vide article *Isæcutia*; but *puncturing the bladder above the pubes*, or from the *perinæum*, are the only two methods now employed.

If the opening into the bladder is to be made above the pubes, the best situation for entering the perforating instrument, is about an inch or an inch and a half above the symphysis of the pubes. It is recommended to make an incision of about two inches in length, through the common teguments and muscles, and then perforate the bladder with a trocar. But, perhaps, as Mr. Bell observes, this division of the teguments is unnecessary, as the trocar may at once be pushed through the skin, muscles, and bladder. As soon as the trocar has entered the bladder, withdraw the stilette, and secure the canula in its situation, by pieces of ribbon or tape connected with it, and passed round the body of the patient. A piece of cork ought to be fitted to the canula, that the urine may pass off at proper intervals only. In corpulent people, a trocar, with a canula of two inches long, is necessary; but in others, the instrument should be half an inch shorter. The canula should be taken out and cleaned every two or three days; but previous to withdrawing it, a firm probe of a sufficient length ought to be passed through it into the bladder, upon which it may be again returned with ease and safety, as soon as it is properly cleared of the incrustation. Vide *Bell's Surgery*, vol. ii. *Le Dran's Operations*; *Sharp's Operations*, and *Critical Inquiry*.

To puncture the Bladder from the Perinæum, lay the patient on his back, and his thighs being properly separated and secured by assistants, make an incision of about an inch and a half in length, beginning at the commencement of the membranous part of the urethra,

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urethra, and continue it towards the anus, in a line parallel to, but at least half an inch distant from the rapha perinæi. This done, the bladder being distended, will be easily distinguished by pressure at the bottom of the wound. But should it be felt by the finger, or not, there need be no hesitation in putting in the trocar a little above, and to the left of the prostate gland; and by directing the instrument a little upwards, there can be no danger of wounding either the ureters or *vasa deferentia*; if the trocar is carried deep enough, it cannot fail of reaching the bladder. Mr. Bell says, the stilette should have a deep groove, by which we instantly know when the bladder is perforated, by the urine flowing along the groove. The same treatment is necessary here, as when the operation is done above the pubes.

In performing this operation on WOMEN, it cannot be done with so much ease or safety, as from the vagina. By introducing the finger into the vagina, the bladder, from being distended, is easily felt. The fore-finger of the left hand, being introduced into the vagina, conduct the instrument on it, and perforate that part of the bladder first felt by the finger. The same treatment, as already directed, is here necessary. The canula should be of a sufficient length to pass out at the vagina, and to admit of its being tied with the T-bandage, by means of tapes properly connected with it. *Vide Bell's Surgery*, vol. ii, and *White's Surgery*.

PERNIO, from *περνία*, *beel*. *A Chilblain*. Chilblains are painful inflammatory tumours, to which the fingers, toes, heels, and other extreme parts of the body are liable, on being much exposed to severe degrees of cold. The tumour is generally of a deep purple, or somewhat of a leaden colour, attended with shooting and pungent pain, and a considerable degree of itching. Sometimes the skin cracks and discharges an ill conditioned matter; in the last and

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worst degree, a gangrene is formed. Dr. Cullen places this disorder as a variety of the *phlogosis erythema*.

The principal methods of prevention and relief are, to render the skin less tender, and more firm; to guard against change of weather, by suitable covering; to correct the vicious quality of the temperament, and according to the different degrees of the complaint when present, the subsequent applications are made use of.

When winter approaches, let the parts usually affected be frequently put into cold water, avoiding every occasion of subjecting them to warm. Issues, or frequent gentle purges, will drain off a redundancy of humours. As to a faulty quality in the blood, of whatever kind it may be, proper alteratives are not to be neglected; but when the disorder is present, whilst in its lowest degree, dip the part into water that is cold, and as near to freezing as may be, and there continue it during a minute or two; or if the cold chills or numbs the part very much, dip it in, and take it out two or three times, at short intervals; after this it may be gently dried; the same process being repeated, at least every morning and evening, until all uneasiness is removed. The most troublesome itching is removed by dipping the part in cold water, or by applying snow to it, though in some few instances the snow rather increases than diminishes the disorder. When the patient cannot bear the cold, when a cough attends, or other circumstances which forbid the application of cold to the extremities, the best substitute is, to wear dog-skin socks, or gloves, day and night, until the inflammation is removed. Linnæus recommends the diluted marine acid for bathing the part affected with. In greater degrees, as when the part may be said to be frost bitten, rub the parts with snow, or salt and water, and immerse them in the coldest water. Avoid cordials and exposing

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posing the patient to heat, suddenly; but gradually, both are employed with advantage. Vapours sometimes agree better than baths, in which case, the vapours from vinegar are the best; but as their vapour softens the skin, it should afterwards be often washed with a mixture, water two parts, and camphorated spirit of wine one part. If the parts are ulcerated, gentle purges may be used, the swelled parts exposed to the steams of vinegar, and digestive ointments applied to the sore. When a gangrene comes on, treat it as when the same happens from any other cause, attendance being given to the circumstances of the constitution. *Vide Bell's Surgery, vol. v. Pearson's Principles of Surgery, vol. i. and White's Surgery.*

PNEUMATOCELE, from *πνεύμα*, *wind*, and *ώνη*, *a tumour*; *a flatulent Hernia*, or *windy Rupture*. It is when wind only is the contents of a rupture; but it rarely, if ever happens. In some putrid fevers, in the small-pox, and gangrenes, some parts of the skin frequently crackle like parchment under the finger. When carcases begin to corrupt, air evidently begins to generate in the vessels and cavities, from which it may be presumed that, in a very corrupted state of the fluids, the *pneumatocele* may be formed. Mr. Bell observes, that the term *pneumatocele*, is applied to signify a distension of the scrotum by a collection of air. This has been described by most of the ancient writers as a very frequent occurrence; but there is much reason to think, that a great proportion of all the tumours they take notice of as containing air, were either formed by collections of water, or by a protrusion of some of the bowels. That species of hernia, to which young children are liable, is to this day by the common people termed a wind rupture; as are all those collections of water in the scrotum, with which the new-born infants are affected: but it is well known, that none of these tumours are

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formed merely by wind; their contents being of a very different nature. In wounds of the lungs, air is sometimes extravasated into the surrounding cellular substance, and in that way passes into the scrotum, as it does in particular instances over the whole body: and in high degrees of putrid diseases, so much air may be separated from the blood, as to distend the cellular substance of the scrotum, as well as of other parts; but a real *pneumatocele* has never, probably, existed as a mere local affection of the scrotum. In the case of air diffused into the cellular substance of these parts, in consequence of a wound, or any other affection of the lungs, producing an extravasation of it, the same method of cure will answer for its removal, that is recommended for anasarcaous swellings formed by water, viz. small punctures with the point of a lancet, which are found to be fully sufficient for evacuating great quantities of air. But whenever the disease is induced by such a great degree of putrescency in the system, as is necessary for affecting a separation of air from the blood, there can be little reason to expect any advantage to result from whatever means may be employed for relief; though when the putrid degeneracy of the humours is the cause, a plentiful use of antiseptics and corroborants are indicated.

Mr. Pott positively asserts the *pneumatocele* to be a mistake. He says, that there is no tumour of this kind, and in this situation, in a living animal: it is, indeed, particularly described by many writers, both ancient and modern, and said to be a disorder to which infants are particularly liable: but the complaint so described, and which nurses, &c. do still call a wind rupture, is not what they take it for; neither is it produced by wind; it is either a true intestinal hernia, or a species of hydrocele. There is no hernia produced by mere wind; the two diseases which in new-born children, and infants, are taken for, and called wind ruptures are, a tumour produced by a

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final quantity of fluid remaining in the lower part of the tunica vaginalis, after its communication above with the cavity of the belly is closed ; and a true, but small intestinal hernia. The natural communication between the cavity of the tunica vaginalis and the belly, not being shut until some space of time after birth ; it may become close at its upper part, while there is a quantity of fluid on the lower, too large for the absorbent vessels to take up immediately ; and consequently that such infant will, until that office be executed, labour under a true hydrocele of the tunica vaginalis testis ; a case which is very frequent, though generally mistaken for a wind rupture.

Some late writers mistake the encysted hydrocele of the tunica communis which connects the spermatic vessels for the wind rupture ; but it differs from the wind rupture in its situation ; but unfortunately, the encysted hydrocele of the tunica communis, may be accompanied with a hydrocele of the tunica vaginalis, or with a true hernia, and then the case is somewhat difficult to ascertain. Vide *Bell's System of Surgery*, vol. i. and *Pott's Chirurgical Works*, quarto edit.

POLYPUS, from *πολύς*, *many*, and *πεπτός*, *sept.* This term, when applied to the human frame, signifies certain coagulations and concretions of blood, in the blood vessels, which send off ramifications into the adjacent vessels. The true polypus is such a concretion of blood, as consists of a whitish, fibrous, and pretty compact substance, and differs widely from grumous or coagulated blood, which, when found, is called the *bastard polypus* ; it is a solid fibrous concretion, formed of the more viscid parts of the lymph.

Their seat is in the sinuses of the brain, the ventricles of the heart, the jugular veins, the veins in the uterus, and in any artery or vein. According to Dr. Hunter, in his lecture on the blood, this is no disease in the living body, for the *polypus* found in the

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blood vessels, are not found till the body is dying. Those that are the subjects of manual operations, their seat is in the nose, the uterus, and the vagina.

A polypus in the nose, has been called *noli me tangere*, *sarcoma*, and *hypersarcoma*; but the *polypus* is always soft, and hangs by one or more slender roots; the *sarcoma* is sometimes soft, but generally hard, and is fixed on a large immovable basis.

The *polypus* of the nose is an excrecence whose branches spread among the *laminæ* of the *os ethmoides*, and through the whole cavity of one or both nostrils. All these *polypuses* spread on the *laminæ spongiosæ*, pretty nearly in the same manner as the *hydatids* of the *belly*, in one kind of *dropfy* do on the surface of the *liver*. They proceed from any part of the nostrils, or those *sinuses* of the *cranium* that are lined with the same membrane as that with which the nostrils are; being no other than an enlargement of one or more of the glands thereof.

The causes may be external or internal; the external are chiefly some violence done to the *pituitary membrane*, the application of stimulating drugs thereto, and blows, scratches, &c. Internal causes are, acrid *desluxions*, frequent or profuse *hæmorrhages*, &c.

Different *polypuses*, and the same at different times, appear of different sizes and consistencies; their elongation is sometimes so quick, that they appear below the nostrils in two or three days; for the most part they are free from pain, yet sometimes they are attended with both pain and hardness, and then they generally are disposed to a *cancer*, in which case, they are of a livid colour, and apt to bleed by the slightest touch.

When a *polypus* appears soft, and of a pale colour, like the serum of the blood, being also free from pain, it then is the best kind, and in the most proper state to extract; these have rarely more than one attachment,

tachment, from which they hang, and it is very small; this must be brought away with the *polypus*, which commonly happens in the extraction of it, if the forceps take hold high enough. If it is hard, and appears *schirrus*, it will in general be found to have a broad basis, and be unfit in every respect to meddle with; but if it is of that innocent kind just mentioned, its attachment is usually in the anterior parts of the nose, let the *polypus* appear where it will, it will be best extracted anteriorily, for few can bear the introduction of the forceps up behind the uvula.

Mr. Sharp directs the following method of extracting a *polypus*: "Introduce a pair of forceps with a slit at their extremities (for the better hold, an inch and a half up the nostril, to secure the *polypus* as near the roots as may be; then twist them a little from one side to the other, and continue this action while you pull gradually downwards; if it breaks, repeat the extraction as long as any remains unless it is attended with a violent hæmorrhage, which is an accident that sometimes happens, and rarely fails, if the *polypus* is become *scirrhus*; this hæmorrhage is soon abated by the contraction of the vessels, or the application of lint dipped in some styptic." It may be known that the *polypus* is removed, 1st, By the sight; 2dly, By the voice; and 3dly, By the freedom of respiration through the nose. In introducing the forceps it is difficult to avoid the *osseæ spongiosæ*; but to shun them, keep the beak of the forceps as near as possible to the *os palati*. When the operator draws away the *polypus*, he may generally bring it away whole, if he draws and moves it very gently. If any of the *polypus* remains, touch it with the *argent. nitrat.*

Polypi in the vagina, may happen at every period, but most frequently occur towards the decline of the mens. They must be carefully distinguished from *herniæ*, or a

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prolapsus uteri. Their removal is best effected by ligature. For fixing the ligature, the fingers are sometimes sufficient, but when the are not, Dr. Hunter's needle, or M. Levrett's double canula, may be used. M. Levrett's instrument is a piece of flexible gold, or silver wire, passed through a double hollow probe in the form of a nose: this is to be conveyed into the vagina, and carried over the tumour, till it reaches the base. The ends of the wire must be gently drawn, or it must be twisted round as tight as the patient can bear; the canula must be afterwards fixed to the thigh, and the wire tightened every day, as it slackens. The circulation in the tumour being thus stopped, the *polypus* will drop off in two or three days. In fixing the ligature, be careful not to mistake the tubercle of the os tincæ, of the *polypus* tumour.

Mr. Bell prefers the use of the ligature in every case of *polypus*, whether in the nose, fauces, &c. Vide his System of Surgery, vol. iv. also Lond. Med. Transactions, vol. i. Lond. Med. Journal, vol. vi. Pott's Work, 4to. and White's Surgery.

PROCIDENTIA, from *procidere*, to fall down. PROLAPSUS, is used in the same sense. A procidence, or *prolapsus*, is the misplacing of a soft part, so that it is generally obvious to the sight; or, a tumour arising from the dislocation of a soft part, as a membranous or fleshy part, as the bearing down of the rectum, &c.

Procidentia Ani; the falling down of the fundament. It is a relaxation of the sphincter to such a degree, that the internal villous, or rugous coat of the intestine, protrudes beyond its usual limits, occasioning a swelling proportionably.

The causes are, a weakness in the part, which is aggravated by costiveness, diarrhoeas, and particularly a tenesmus: an acrid humour falling on this part, the haemorrhoids, hard labour, a stone in the bladder, or whatever can occasion a paralysis of the levatores and sphincter ani.

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Infants are the most frequent subjects of this disorder, by reason of the tenderness of their frame and their frequent straining, either from costiveness, or the *falling down* of a sharp humour on these parts.

The signs are evident to the sight ; the inside of the intestine is turned outward ; the tumour is of a fleshy colour, sometimes it is wrinkled, at others it is smooth and shining, and is accompanied with an uneasiness, and an ineffectual desire to go to stool.

Sometimes this disorder is mistaken for the piles ; indeed any tumour about the anus, when of a considerable size, may be mistaken for the descent of the part, and vice versa, attention is therefore necessary. Through mistake, a ligature has been applied about the prolapsed anus, in order to extirpate it.

The cure is difficult, but less so in children than in grown people. When costiveness, a stone in the bladder, or labour, gives rise to this complaint, the cure is sometimes effected ; when a diarrhoea follows it, the cure is very difficult ; if succeeded by the haemorrhoids, the difficulty is yet greater.

When acrid matter is observed to occasion fruitless straining, so as to force down the inner coat of the rectum, give a gentle dose of rhubarb every third or fourth day ; and in the intervals of purging, give absorbents and strengtheners, such as chalk, in frequent and small doses ; if pain is considerable, give small doses of the *tinct. opii.* at proper intervals. If the habit is costive, give laxatives, in such doses as will procure a stool or two every day ; if a diarrhoea attends, it should be gradually checked ; if there are ulcers in the intestines, or if by the sharpness of the humours the mucus is abraded, the starch clyster, with a few drops of the *tinct. opii.* should be now and then injected. If a tenesmus comes on, let a glyster be injected every night, or oftner, in which is the Venice turpentine dissolved with the yolk of egg. If the prolapsed intestine is swelled, apply discutients ;

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when the tumour gives way, use gentle astringents; then, by gently pressing the part with your fingers, the whole will return to its proper situation; after the reduction, the part may be supported by the bandage. It is the most easily reduced by the patient himself lying on his back, and writhing himself from one side to another, crossing his legs, &c. But, as in all other cases, let the cause be first attended to. If it goes up and down of its own accord, there is no occasion for surgery; the best method will be to remove the irritation, and strengthen the whole system, which is generally in a relaxed state. The irritation is frequently produced by an acrid mucus, which is generally relieved by alkaline medicines. Avoid astringents, even omit the bark, if it proves astringent. Sometimes the intestine is not only thrust forth, but is so bound by the sphincter ani above, that it cannot readily be returned; in such case, Mr. Pott advises to bleed, to give opium as required, to foment, and wrap up the part in an anodyne and emollient poultice; thus in a little time its state is so altered, that it generally is returnable, until which time, the more we handle it the worse it will be, but now having gently wiped it clean, it may be returned.

When the *prolapsus ani* is caused by a stone in the bladder, or other disease, it will be restored when those complaints are relieved on which it depends. If a gangrene affect the intestinal fold, slightly scarify the discoloured part, apply stapes wrung out of warm red wine, or other antiseptics; repeat them every two or three hours, and betwixt the use of these, continue the catapl. e cumino on the part. When the prolapsed part cannot easily be kept up in grown people, Cheselden recommends to "take away a piece of the prolapsed gut lengthway, for after the cicatrix is formed, the gut will never descend." But on this Mr. Pott remarks, "I am sorry for this, lest Mr.

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Cheselden's authority should tempt any other person to make the same trial."

By the means here recommended, the protrusion will be returned, and its recurring again, may be prevented by the use of tonics, gently astringent injections, partial cold bathing, and the T bandage, previously applying a soft compress of linen on the anus. Instead of the T bandage, Mr. Gooch invented a truss, which may probably be more effectual. For a delineation of it, vide his *Cases, and Practical Remarks in Surgery*, vol. ii. also *Bell's Surgery*, vol. iii: plate xix. For the general treatment of this case, vide *Heister*, *Bell*, and *White's Surgery*.

Procidentia Uteri; *the falling down of the Womb*. Different species of this disorder are thus distinguished 1. Relaxatio, a bearing down, or descent of the womb, is when the womb descends down to the middle of the vagina, or even with the meatus urinarius. 2. Procidentia; the procidence or falling out of the womb, is when it descends to the labia pudenda. 3. The prolapsus; the precipitation, or falling out through the labiæ pudendæ. 4. Inversio or perver-sio; and 5. Retroversio.

In the lesser degrees of these disorders, they are discovered by the touch, and the greater degrees by the eye. If the woman stands upright, and a finger is introduced into the vagina, the descent of the womb is discovered, and by meeting with the os tincæ the case is distinguished from a descent of the vagina; though, in some instances, much difficulty attends the distinction of these accidents. If the woman is pregnant, she finds a weight at the bottom of her belly, and the cervix uteri presses so low, that she cannot walk but with pain and straddling; towards the latter end of pregnancy, the womb sinks so low as to cause numbness in the hips, and sleepiness in the thighs, a difficulty of urine and at going to stool, by pressing the rectum and the neck of the bladder; a considerable

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considerable pain is also felt in the loins, about the insertions of the ligamenta lata. When there is a *perversio uteri*, it appears like a piece of flesh, and when this is the case, it is always attended with a *procidentia vesicæ urinariæ*.

Girls are sometimes the subjects of this disease, but it most frequently happens to women who have had children, in whom it is generally caused by hard labour, or getting out of bed too soon after delivery, though sometimes it is owing to a weak relaxed habit. A short funis umbilicalis, and the placenta adhering, may be the cause, particularly if force is used in delivering them.

If any species of this disorder is neglected, the woman suffers much pain, with a difficulty in voiding her urine, and sometimes an inflammation, ulcers, or a cancer, will be formed in the womb.

In general the cure is only palliative, and consists of introducing a pessary into the vagina, by which the uterus is kept from falling down any lower; sometimes this proves a means towards a radical cure, by giving the relaxed parts an opportunity of recovering their tone. Sometimes, when a lesser degree of this disorder has happened, the usual confinement in bed during the next lying in, has effected a cure; a pessary should be introduced as soon as it conveniently can, after delivery being completed, and worn for some time after the woman walks abroad. A round pessary is the best, and should be so large as to occasion some uneasiness in passing it up, or it will be apt to fall down again. If a lacerated perineum is the cause of the womb bearing down, a pessary will not be very useful; in this case, a sort of cushion may be placed with its convex side to the os externum, and secured there by the T bandage. If the prolapsus has been long neglected, so that a swelling and inflammation is come on upon the part, bleed, keep the bowels open, and apply fomentations and poultices.

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tices. If a mortification appears, give the bark, and use the just named applications, until the sloughs separate and the parts heal, after which apply a pessary, if the patient can bear it. Whenever a gangrene or a cancer appears, reduction increases the attending symptoms, or produces new and fatal ones; but if there are ulcers, the part should be restored with all convenient speed.

The inverſio is when the uterus not only descends, but is turned inside outward. This never happens but immediately after delivery, the os tincæ then being nearly as large as the fundus; and, besides this, some violence, such as pulling the funis forcibly to bring away the placenta, is used, otherwise the contraction of the womb, after being freed from its principal burden (the child) would absolutely prevent all possibility of this kind of disorder. Whatever be the cause, the part must immediately be restored, or the consequence will soon be fatal, for its orifice will contract in this unnatural state, and so prevent the needful relief. First empty the bladder, if it contains much urine; then lay the patient on her back with her hips raised, then with the hand restore the uterus; gently return it into the vagina with three fingers, and then with the whole hand place it in the belly, after which, clench the fist, and retain it there, until the uterus contracts upon it; lastly, support it as in the case of a prolapsus.

Dr. Leake, in his Medical Instructions, advises after the parts are reduced, the frequent use of the following injection: Rx Alum. r. & vitriol alb. $\frac{1}{2}$ 3j. aq. bullient $\frac{1}{2}$ j. m. & filtr. per chart. Inject it milk warm into the vagina, with a womb syringe. At the same time, he directs the use of chalybeate waters, generous diet, the Peruvian bark, and if the internal parts are found, the cold bath. If the protruded parts are ulcerated, return them, and keep the ulcer clean by injecting barley-water. The

T.-bandage.

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T bandage may be worn with advantage. Should the descent of the tumour prevent the patient from walking about, a fine sponge wrung out of alum-water may be dried in a compressed state, and cut into any convenient form, so as to be introduced as high as possible. During the use of this application, the injection may be used twice a day. The sponge tent should be made gradually smaller, as the vagina contracts.

In the *Edinb. Med. Comment.* vol. ii. p. 43. there is an account of a woman, of about fifty years old, who was afflicted with a *prolapsus uteri*, and having tried various means of relief in vain, cut into the substance of the uterus with a common kitchen knife. A considerable hæmorrhage ensued, after which the uterus contracted, and she never had any return of the *prolapsus*, or any other symptoms. She effectually cured several women in a similar way.

In the *prolapsus vaginalis*, the same method of cure is still more strongly recommended.

The retroversion of the uterus. This disorder is not properly a species of *procidentia* as above described, but is when it so falls, from its natural position, that the urinary bladder is either pressed by it, or drawn from its usual place, and the fundus uteri presses upon the *intestinum rectum*; or it may be, that the fundus uteri is thrown upon the *os pubis*, and its orifice towards the rectum. Most of these cases happen in the early stages of pregnancy, seldom so late as the fourth month; they occasion first a difficulty, then by degrees a suppression of urine, and soon after, a suppression of the intestinal discharge. For the most part, the following treatment has been successful. First, the urine is to be drawn off by means of the catheter, then a stimulating glyster must be injected, that the intestines may be duly evacuated; these done, place the woman on her knees and elbows, with her head downwards, and by introducing one hand up the

the vagina, endeavour to draw it forwards, then with two fingers in the anus, endeavour to push up the fundus uteri. Vide an account of some instances of this nature in the Lond. Med. Obs. and Inq. vol. iv. p. 388, &c. and also Dr. Hunter's Tables of the gravid Uterus. Dentman on the Retroversion of the Uterus, and White's Surgery.

It is supposed that scarifications may succeed instead of incisions on the *procidentia uteri*. Vide Ruyſch's Obs. No. 1, 7, 9, 10, and Saviard. Lond. Med. Obs. and Inq. vol. ii. Med. Museum, vol. i. Heister's Surgery. Hamilton's Midwifery, edit. 2. Edinb. Med. Comm. vol. ii. Lond. Med. Journal, vol. vi. White's Surgery, and Leake's Med. Instruct. edit. 5.

Procidentia Vaginæ. The degrees of this disease are different; but when a part of, or all the vagina appears through the pudenda, it may be called a prolapsus; when it descends to the labia pudenda, it may be termed a *procidentia*; and when not so far, a relaxation. Widemannus gives a case of a prolapsus vagina, which had all the appearance of a prolapsus uteri, and which was not properly distinguished until it was too late to afford any relief; but generally they are distinguished by observing the *os tincæ*, which distinguishes the womb from all other cases of a descent, and from the *inversio*, by its only happening after labour. When the whole vagina is prolapsed, it appears like crude bloody flesh. If the prolapsed vagina swells violently, and is attended with inflammation, there is immediate danger of a sphacelus; if the prolapsed part be affected with little or no swelling; or if there is no inflammation, the tumour will be very little trouble, and without danger. This disorder should be distinguished from a tumour, a fungus, &c. of the part.

The part may be restored with the fingers; which when done, the patient should rest in bed for some days, and use an injection of warm vinegar and water,

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or red wine and water ; but if these fail, the t bandage must be worn. If inflammation, &c. attend, the same procedure will be proper, as when the like symptoms happen to the uterus. Vide *Hamilton's Midwifery*, and the *Edinb. Med. Comment.* vol. ii.

Procidentia Vesicæ Urinariæ. The inversion of the uterus never happens without the bladder being displaced. It gets down to the perinæum, and there forms a protuberance. The bulb of the bladder being thus forced down, it is now no longer exposed to the pressure of the abdominal muscles as before, and not having force enough in this posture, to contract, and press out the urine, the poor woman in this state never makes any water, without first squeezing the bladder with her hands, or between her thighs. When the bladder is thus disposed, if the catheter is to be introduced, it must not be thrust inward, but downward, the bulb of the bladder being below the meatus urinarius. Vide *Lond. Mèd. Obs. and Inq.* vol. iii.

PROPTOSIS, from *προπτω*, to fall out. The same as *Procidentia*, to fall from its natural situation. When the eye is so large that the eye-lids cannot cover it, it sometimes bursts. This disorder, is called *Proptosis*. If the eye is swelled with a watery humour, some call it, *hydropthalmia*, *oculus bubulus*, *oculus borinus*, or *oculus elephanthinus*, from its resemblance to the eye of an ox, or an elephant. In recent cases, the disease has been removed by bleeding, purging, blistering, and discutient applications. If these fail, the deformity may be removed, by evacuating the humour. In the *Medical Communications*, vol. i. p. 409. & seq. we find an account of its being done by a seton. The author says, to do it with convenience, the surgeon and his patient should be seated in the same manner as for extracting the cataract. The seton needle being armed with six threads of white sewing silk, is to be passed from the external angle, about a quarter of an inch from the edge of the cornea, through

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the posterior chamber of the eye, and brought out at the same distance from the inner edge of the cornea. In fastening the threads, we must be cautious not to draw them tight, lest they should cut through the cornea before the cure is completed. The external applications should be of the sedative kind ; perhaps we have none more proper than the saturnine water of Goulard, applied warm. Inflammation and fever will give way to a cooling regimen, bleeding, and gentle laxatives. A swelling of the eye-lids, and a thickening of the coats of the eye follow the operation ; they begin to subside about the eighth or ninth day, at which time, I usually take out some of the threads, and the swelling then gradually sinking within the orbit, the patient finds a comfortable alleviation of those painful symptoms with which he was before affected. For a month after the operation, I keep in some of the threads, which after the first inflammation is removed, do not occasion much irritation. Vide Lond. Med. Journal, vol. i. p. 346.

PROSTATÆ, from $\pi\pi\pi$, before, and $\iota\sigma\eta\mu\iota$, to stand, from $\pi\pi\pi\iota\sigma\iota\sigma\mu\iota$, to be adjacent to. *The prostate glands.* When the *prostate gland* is inflamed from a suppressed gonorrhœa, every means should be used to restore the discharge ; for, if this inflammation terminates in suppuration, whether the abscess breaks into the urethra, bladder, intestinum rectum, or perinæum, it will always be attended with disagreeable consequences. The symptoms of an inflammation or swelling of this gland, are known from the pain and difficulty of making water ; besides, if we should be doubtful whence they proceed, the finger will clearly teach us. If a suppuration has already taken place, we have only to observe, that mercury internally and externally will be necessary, and afterwards proper injections, the compositions of which must be left to the judgment of the practitioner. The remedies proper for indurated testicles or buboes, will be suitable in

this case ; but especially blisters repeatedly applied to the perinæum, and internally, hemlock in large doses. If a total suppression of urine is feared, bring on a suppuration to prevent worse consequences.

PRURITUS. *A violent Itching, or the Itch, called also PSORA.* Dr. Cullen names this genus of disease *psora* ; he places it in the class *locales*, and order *dyalyses* ; and defines it, pustules, or small prurigenous ulcers affecting the hands, which are contagious. Many are the appearances on the skin, and various the disorders that are accompanied with, or manifested by an *itching* therein ; but the *itch* is a skin disease, and has for its cause a very small kind of animalcula of a whitish colour, and shaped like a tortoise, each having six feet, and a sharp head, with two small horns on its point. They are very hard, therefore not easily destroyed by rubbing them.

This disorder usually appears at first about the wrists and fingers, then on the arms, legs, and thighs, but never affects the head. In the evening, when the patient approaches to the fire, or begins to grow warm in bed, the *itching* is most troublesome ; in some patients, there are blotches here and there ; in others, there is a scurfy or scaly kind of eruption : this last is called the *dry itch*. The moist kind most frequently happens to children ; and the dryer sort to adults. The humour in the moist sort is finous and purulent, and an inflammation is observable about the basis of each eruption ; but in the dry kind, the pustules are of a small size, and are filled with a serous ichor, which, by irritating the highly tender fibres under the cuticle, occasion both heat and *itching*.

The moist kind of *itch* is more easily cured than the dry sort ; this disorder is obstinate in old people, and still more in those whose viscera are unsound.

Whether the cause be a morbid serum in the blood, or the animalcula abovementioned, sulphur alone is to

to be depended on for a cure ; it should be taken inwardly, so as to keep the bowels lax ; but if it agitates the blood, and occasions eruptions to appear on the skin, it may be mixed with the cream of tartar. As to its external use, it need not be applied like other medicines to every part of the body ; but if rubbed on the palms of the hands, and the soles of the feet, it suffices : and thus used, there is less objection to the smell, and the uncleanliness complained of, than when the whole skin is anointed.

Dr. Pringle recommends the following ointment to be used at four times, each portion to be applied at bed-time ; and to prevent any disorder from too many pores being stopped at once, he directs that one-fourth part of the body should only be rubbed at once.

R Flor. sulph. 3 j. p. rad. elleb. a 3 ij. vel fal ammon. crud. 3 ij. axung. porc. 3 ij. m.

The sulphur vivum, is more effectual than the flowers of sulphur.

During the use of sulphureous applications, clean linen is necessary ; it should often be changed, but not worn again before being well washed and bleached.

Many other applications have been used, and still are preferred by many. They consist chiefly of ointments or washes, with the hydrargyr. muriat. or white hellebore.

Dr. Turner prefers a solution of the kali, in the proportion of a dram to an ounce of water ; of this a tea-spoonful is to be taken two or three times a day in any small drink. The body at the same time to be washed with a weak ley.

The extr. cicutæ has been found useful in some obstinate cases, which resisted all other common methods.

Baths should be used in the dry species particularly ; and perspiratiyes are useful in both sorts of this complaint.

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The venereal *itch* requires the use of mercurial alteratives, and the decoction of guaiacum. Vide *Biss's Essays*; *Turner on the Diseases of the Skin*; *Philos. Transf. Abr. vol. iv.* and *Bell on Ulcers*.

PSOAS, seu, LUMBORUM ABSCESSUS. *Psoas*, or *Lumbar Abscess*. This abscess receives different appellations from different writers. Mr. Pott observes, that it receives this name from the matter of its sliding in its fall upon the side of the *psoas* muscle, or betwixt that and the *iliacus internus*. Dr. G. Fordyce says, that between the *psoas* muscle and the muscle of the back, lies a quantity of loose cellular membranes, in which an inflammation often takes place, which, terminating in an abscess, forms this disorder.

Mr. Pott thinks this disorder originates in the lymphatic glands, near the *receptaculum chyli*, the *vertebræ* about which are generally diseased and carious in these cases. Mr. Abernethy thinks, that the *psoas* abscess being connected with, and often producing a caries of the bodies of the *vertebræ*, is too prevalent an idea. Because the cellular substance between the *peritonæum* and the loins is the common seat of this abscess, and as the *peritonæum* would readily yield to matter collected behind it, the pressure of the collected pus against the bones would be insufficient to produce the disease. Dr. Hunter again observes, that matter is sometimes lodged in this part at the crisis of a fever, and he has seen instances of matter proceeding from the liver into this situation, after making its way through the *peritonæum*. As there is a great quantity of cellular membrane over the *psoas* muscle, and a considerable way toward the skin, the matter seldom points outwardly on the back, where it is formed, but running down on the course of the muscle, makes its way into the groin, thigh, ham, the inner condyle of the *os femoris*, &c.

or

or when on the right side, it may penetrate the colon which lays upon it, and thereby occasion a large discharge of matter per anum, and possibly a fistulous fore.

The *psoas* abscess often exists a considerable time before it is suspected.

The symptoms, in the beginning, are similar to those of inflammation of the liver, excepting for the situation; its progress and termination is also like that of the liver. The pains are situated in the back, for the most part, rather lower than the region of the kidneys. The pain is but slight, and so moderate are the symptoms for a time, that frequently it has not been attended to until suppuration had taken place. After the abscess is formed, the pain often becomes greater than before; for, the pus fermenting in the cellular membrane, spreads itself, and produces a great degree of general inflammation. This cellular membrane communicates itself with the cellular membrane in other parts, and the pus sometimes makes its way through the peritonæum, into the cavity of the abdomen, whence arise hectic heats, and proves fatal. The matter may also pass down the *psoas* muscle, and make its exit externally a little farther than the inguinal glands, or it may pass farther down the thigh, dissect the muscles, and form sinuous abscesses. Sometimes the matter passes through the muscles of the back, but may take its course into the cavity of the back-part of the pelvis: thus it appears, that the pus is capable of passing several different ways, and may communicate with all the parts at once, which makes it a dangerous abscess, not so much with regard to its size, as to the parts which it affects. Usually, the first symptoms that the patient feels in cases of the *psoas* abscess, is not where the disease originates, but a pain in the lower part of the thigh of the side affected; he stands on his toes, &c. and does not complain of the part for

for some time; but, by attending to the circumstances from the beginning, and laying the person affected on his back, lifting up his thigh, then between inspiration and expiration, carefully examining the part, you will probably feel the tumour near, or in the region where the disease originates. The leg of the affected side seems to be shorter than the other, but it is not so. In some cases, the disease proceeds rapidly, in others very slowly; at length, it appears in the groin, and the affected side; the muscles of the thigh become exceedingly emaciated, and the whole body wastes. When it proceeds thus far, the patient rarely, if ever, recovers; the symptomatic fever that generally attends terminates life.

This disease is often confounded with the abscess of the hip-joint; yet they are very distinct and different in their origin, seat, and progress. The *psoas* abscess originates often in the lymphatic glands near the receptaculum chyli, the vertebræ about which are generally diseased and carious; in other instances it originates in or about the loins, if not higher in the abdomen. The symptoms mentioned above, continue for some time. At length it appears in the groin, the limbs waste, and, indeed, the whole body also, &c. The hip-joint abscess originates in the hip-joint; when it attends, the leg of the affected side is shorter than the other; the pain begins in the part where the disease originates, and about the great trochanter. The *psoas* abscess is most frequently situated before, or by the sides of the *psoas* muscles, from whence the fluid collected sometimes extends itself laterally, and making its way between the three strata of abdominal muscles, presents itself beneath *Poupart's* ligament, and elevates the fascia of the thigh. To distinguish it from a local external abscess, lay the patient on his back, and squeeze the tumour; if it be a *psoas* abscess, the matter

matter will be pressed into the cavity of the belly ; but if it be in the part itself, no alteration takes place ; and farther, if there be two lumbar abscesses, by compressing, one will fill the other. A stone in the kidneys has been taken for this disease ; but there is this difference between them, the stone in the kidney will sometimes produce but slight inflammation, but at other times very considerable ; besides, the pain reaches from the kidneys down the groin to the bladder, passing stony concretions, and sometimes blood with the urine ; these symptoms do not exist in the *psoas* abscess. Vide *ABSCESS in the Hip.*

If an absorption takes place before the abscess has burst externally, the patient often dies. It is generally of the strumous kind, but when not, it is often fatal. If a fetid ichor is discharged, or the bones are affected, little or nothing is to be hoped for. The matter of this abscess sometimes makes its way from the region of the kidneys down to the bottom of the thigh of the affected side ; but before this, the mischief it has done is not to be repaired ; and if an opening is made, the patient is likely to be destroyed by the excess of the discharge.

A symptomatic fever generally attends this complaint, and closes the scene. But what is very remarkable, this fever does not come on during the time the matter is confined, nor to any great degree for forty-eight hours after the matter is let out ; this circumstance is extraordinary, as it cannot arise from the absorption of matter, for that must have been greater before the opening : nor from a wasting in consequence of the evacuation of the matter, as that was before extravasated, and was an extraneous body with respect to the constitution ; nor from the admission of air, for that in other cases does not produce such effects ; we are therefore at a loss to know why the symptomatic fever does not occur till after the discharge of the matter.

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This disease, whilst in its inflammatory state, is generally neglected or mistaken; otherwise it probably would easily be cured, and that, principally, by bleeding. Dr. Fordyce observes, that this disorder should be treated in the same manner as inflammation of the liver (except for the situation) both in the state of inflammation and suppuration. He farther adds, that in all internal suppurations, the lungs become affected; hence hectic heats, &c. are produced; thence it is necessary, that if the patient resides in a large town, he should remove into the country for the benefit of air. Correspondent with this, Dr. Hunter observed in his Lectures, in the year 1771, that the most likely means to prevent the fatal effects of this disease are, endeavours to keep up the patient's strength sufficiently to enable him to undergo the discharge, which is most likely to be accomplished by a nourishing diet, and clear air, the bark, diluted acid of vitriol, &c.

Mr. Bell says, for the most part, the psoas abscess is occasioned by the small of the back or loins having received some considerable injury by a hurt, or a severe bruise, and if accidents of this nature were treated with the attention they deserve, by blood-letting, particularly from the affected part, and other such remedies as are useful in inflammation, an abscess would probably be prevented. When suppuration has taken place, and the matter has actually begun to point either in the neighbourhood of the anus or fore-part of the thigh, Mr. Bell is decidedly of opinion, that the matter should be discharged. Mr. Abernethy also advises the same practice.

For the evacuation of the matter, the trocar, says Mr. Bell, may be used with advantage, when the case is obvious; but when doubtful, an opening should be made in a slow gradual manner with a scalpel, in the same manner as is practised in cases of hernia. After the matter has continued to flow for some time, and does

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does not become considerably less, in about two or three weeks, some gentle astringent may be thrown up.

Mr. Abernethy advises the pus to be discharged by introducing a lancet through the integuments, and passing it obliquely for a small distance through the skin and the fascia, and by depressing the point of the lancet, there puncturing the cyst. The matter should be drawn off in an uninterrupted current, if possible, and the abscess completely evacuated; then the aperture should be immediately and exactly closed, by dressing the orifice (made in a longitudinal direction, with regard to the thigh) with lint; and bringing the edges into close contact with sticking plaster, as wounds made in bleeding are commonly treated. The matter must be evacuated from time to time as the cavity fills and irritates the newly healed punctures by pressure.

Vide Elements of the Practice of Physic, part ii. by George Fordyce, M.D. Abernethy on Lumbar Abscess; and Bell's Surgery, vol. v.

PUBIS OSSA. *The bones of the Pubes.* As a substitute for the Cæsarean operation, Mr. Sigault, of Paris, first practised the section of the symphysis of the *pubis*. It was originally proposed about two hundred years since by Mr. Pineau, a French surgeon. The operation is thus performed: Lay the patient upon her back upon a table, of a convenient height, and her thighs being separated, introduce a catheter to empty the bladder, and let it be retained in the urethra till the division of the bones is effected. The mons *veneris* being previously shaved, divide the skin and cellular substance which covers the pubes at their symphysis by a longitudinal incision, which ought to commence at the upper edge of the bones, and be continued nearly their whole breadth. The bones being laid bare, cautiously divide the cartilage. Both incisions may be made by a firm common round-edged scalpel,

scalpel. Towards the end of the operation, the assistants, who have kept the thighs asunder, should now support them, to prevent a sudden or forcible separation of the bones ; and if they do not recede sufficiently, the thighs may be slowly and gradually separated. The child is to be delivered in the usual way, and the placenta removed, then bring the bones together, and apply a cotton or flannel roller round the pelvis. The wound requires no particular attention. A bladder must be fitted to the end of the catheter, that the patient may not be obliged to stir when she wants to discharge her urine. The patient must not be allowed to walk, or put the body in any posture that may alter the situation of the bones, for nine or ten weeks. Vide *Bell's Surgery*, vol. v. Practical Observations on the Child-bed Fever, by Dr. Leake, edit. v. p. 258, and seq. and London Med. Journal.

Dr. Hunter very early suggested the difficulties and disadvantages of this operation ; and Dr. Walter, of Berlin, disputes its usefulness so much, as to prefer the Cæsarean operation.

R.

RANULA, the name of a tumour which is seated under the tongue. It hath been thought to resemble a little frog, whence the name of *ranula*; though some say, that it is thus named, because it alters the voice of the patient, so as to make him croak like a frog. This tumour is formed in the salivary glands under the tongue, and is seated on either side of the frænum; it is generally of the scrofulous kind. The matter varies much in different instances of this disorder, being sometimes like the white of an egg, at others it is more solid; in some instances it is purulent, in others it differs from all these. It sometimes grows suddenly, impedes both the speech and swallowing, and also causes much pain; but generally its growth is more gradual, and its effects not so violent. Instances have occurred of their having degenerated into cancers. They are all of the encysted kind, and are with great difficulty either dispersed or brought to suppuration, generally requiring the knife for their removal. If a tumour of this kind is seated where the salival ducts enter into the mouth, incisions must never be attempted, because of the danger of wounding these ducts, with the nerves or blood-vessels; in this case, wait until nature opens a passage for the contents: if it is seated on either side, great care is required, lest the nerves or the blood-vessels there, should be injured: however, in such cases, hold up the tongue of the patient, and make an incision transversely into the tumour; the matter being discharged, dress with warm water, or other emollient. If the sore should be difficult to heal, the

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honey of roses, with tincture of bark, or other astringents may be used. Vide *Heister's Surgery*; *Bell's Surgery*, vol. iv. and *White's Surgery*.

RECTUM INTESTINUM. The last of the large intestines, called the *Rectum* or *Straight gut*. Sometimes there are hard scirrhouſe lumps, without pain, seated at the bottom of the rectum or near the arms. They are thrust out in every effort to void a stool, but are not painful, except after handling them. Mr. Pott advises to remove them as soon as possible. In the instances where they are not removable, the first symptom felt is when the patient wishes to void a large stool. On introducing a finger, they are immediately discovered. Palliatives only can be directed.

S.

SARCOCELE, from $\sigma\alpha\phi\xi$, flesh, and $\omega\lambda\eta$, a tumour. It is a firm, fleshy kind of enlargement of the testicle, or the scirrrous testicle. The *sarcocele*, or *bernia carnosa*, Mr. Pott says, taken in a general sense, means any induration or diseased flesh, though here confined to the testicle; and farther observes, that the *sarcocele*, which is distinguished by the ancient writers into the *sarcocele*, the *hydro-sarcocele*, the *scirrus*, the *cancer*, the *caro adnata ad testam*, and the *caro adnata ad vasa*, are really little more than descriptions of different states and circumstances of the same disease. The *caro adnata ad testam* is a scirrus begun in the epididymis. The *caro adnata ad vasa*, is a scirrrous of the epididymis somewhat increased, when it seems as if it sprung from the spermatic vessels. The *hydro-sarcocele* is when the testicle is enlarged or hardened; there is also a palpable accumulation of fluid in the vaginal coat. The *sarcocele* is a disease of the body of the testicle; and, as the term implies, consists, in general, in such an alteration made in the structure of it, as produces a resemblance to a hard fleshy substance, instead of that fine, soft, vascular texture, of which it is, in a natural and healthy state, composed. Many pass several years with this disease, under its most favourable appear-

ances, and without encountering any of its worst ; but, on the other hand, there are many who, in a very short time, run through all its stages. Sometimes the first appearance is a mere simple enlargement and induration of the body of the testicle ; void of pain, without inequality of surface, and producing no uneasiness nor inconvenience, except what is occasioned by its mere weight. And in some few instances it remains thus for a considerable time, without visible or material alteration ; but, in other instances, very soon after its appearance in this mild manner, it suddenly becomes unequal and knotty ; and is attended with very acute pains, darting up to the loins and back ; but still remains entire ; that is, it does not burst through the integuments. In short, such is the variety of the appearances of this disease, that description can hardly afford an adequate idea of it. Sometimes the disorder seems to be merely local, that is, confined to the testicle ; at other times, there is a pallid or leaden countenance, indigestion, nausea, colic pains, sudden purgings, &c. sufficiently indicating a vitiated habit and diseased viscera. The progress also which it makes from the testis upward, is very uncertain ; the disease affecting the spermatic process, in some subjects, for a great length of time ; while, in others, it totally spoils the testicle very soon, and almost as soon seizes the spermatic cord.

Amongst the mistaken causes of a scirrhous testicle, Mr. Pott reckons the hernia humoralis. He does not say, that a *sarcocele* never follows an hernia humoralis, but that it does not at any time necessarily cause or produce it. Mr. Bell says, that a hardened state of the testis and epididymis, produced originally by a venereal taint, does in some instances degenerate into the worst species of *sarcocele*. However, in general, the hernia humoralis is one of the diseases which should be distinguished from the *sarcocele*. A quantity of water

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is sometimes collected in the vaginal coat of a scirrhous testis, and some have supposed that this water renders the testis scirrhous ; but this not being true, the hydrocele and the scirrhous testicle should also be distinguished.

The only remedy from which any advantage is expected, is, the removal of the diseased parts by extirpation. But before the operation is attempted, a consideration of the manner of the *sarcocele*'s having been formed, and the state of the spermatic cord from the ring to the testicle, are objects of necessary consideration. When it proceeds from a blow on the part, success is more likely to follow, than when it is caused by a cancerous or strumous acrimony attending on that gland ; when these last are causes, they will generally be found to exist on other parts also ; therefore though the diseased testicle be removed, yet from the same cause existing in the habit, other parts soon after become diseased in the same manner. In strumous habits the glands of the mesentery, the lymphatics, &c. are generally obstructed ; therefore external applications signify very little ; but such medicines must be used as first act on the primæ viæ, and then on the lymphatics ; for in children they are seldom seen with this disorder without an enlarged belly, which, before any farther attempts are made, must be lessened.

Mr. Pott observes, that some writers direct, with respect to the spermatic cord, as follows : First, if it is soft, and of its natural size, castration may be safely performed ; which is right. Secondly, if it is much enlarged, the operation is not vindicable. But this is going too far ; for though it may be considerably enlarged, yet if it has no unequal feel, is not painful, or manifests no tendency to scirrus ; its being enlarged is of no consequence ; for obstruction in a diseased gland will frequently occasion an enlarged varicous state of its vessels. Lymphatics also, from the

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same cause, may be dilated or ruptured, which must, consequently, occasion an extravasation in the cells of the spermatic process, both which frequently happen in the *furcocele*, and must certainly give the spermatic cord an enlarged feel; but it is not either of them that can be the least objection to the operation; the spermatic cord not being diseased, only enlarged, which is a circumstance worth regarding; for when it is only enlarged, the operation may be of use; but, when in an enlarged, scirrhouſ, painful state, too high to be able to make a ligature fairly above the part diseased, the operation can be of no use, but is most likely to prove fatal. Many advise to defer the operation until such symptoms come on, as darting pains in the testicles, pains in the loins, &c. which, in truth, instead of being a proper time, is too late, the spermatic process becoming affected, when a testicle is become truly scirrhouſ, so as never possibly after to be of any use to the patient. By carrying scirrhī too long, though at first the disorder be local, a scirrhouſ habit will be brought on; for before the spermatic process becomes affected with scirrhouſ testicles, the patient's habit is often found affected, and he is attended with colicky pains, and other consequent symptoms.

After a venereal gonorrhœa, Dr. Swediaur observes, that, from improper treatment, it sometimes happens that one or both testicles grow hard, i. e. become scirrhouſ. In some of these instances, the disorder is accompanied with a sensation of a painful pressure; but frequently without any pain at all. He adds, that, in these cases, mercury given internally, or rubbed in externally, into the perinæum and scrotum, twice a day, with the constant application of a warm poultice, made of the root of atropa mandragora, Linn. are often useful. Also that the cicuta, applied internally and externally, may be tried, with prospect of advantage. An emetic has been sometimes

times found effectual. The decoction of the bark of the root of Daphne Mezereum, Linn. internally, and a poultice of it externally, has lately been very much recommended ; but whatever means are used, it too generally happens that these swellings remain unaffected, except we can bring on the running again from the urethra ; one method of effecting which, is to inoculate the venereal virus by means of a bougie introduced a little way into the urethra. Mr. Bell says, that when a hardness of the testicle does not yield to the means commonly employed, such as moderate evacuations of blood, when these are indicated ; a soft easy diet ; a lax belly ; the use of a suspensory bandage ; and especially when mercury, which, on the chance of the disorder being venereal, is very commonly tried, are all used without any effect ; we may in such circumstances always have great cause to suspect that the disease is of a real bad nature ; and when to this is joined an accession of more inveterate symptoms, and if the disorder, from the state or an indolent hard tumour, becomes painful, &c. no farther delay ought then to be advised. Castration must be proceeded to. *Vide Sharp's Operations. Pott's Works. Bell's System of Surgery, vol. i. Lond. Med. Journal, vol. v. p. 32; Edinb. Med. Comment. vol. ix. p. 336; and White's Surgery.*

SCALPO. *To scalp.* To lay the skull bare, is called *scalping*. It is done by making an incision equally, and at once, through the integuments and pericranium. In performing this, use the edge of the scalpel, and rather than the point, especially if a fracture is suspected. After making the incision, raise the pericranium a little from the bone with the edge of the knife ; and to clear the bone, use the rugine.

In pursuing a fissure, a rectilinear incision is the best, and in most other cases, an oval one is preferable. Both Arnaud and Gooch give instances of their having

made a crucial incision upon the temporal muscle, with good success, the muscle still continuing its action. Vide *Gooch's Treatise of Wounds*, p. 253.

SCIRRUS, from *σκιρρω*, *to harden*, is a tumour of incompreffible hardness, without pain. Dr. Cullen places this disease in the class *locales*, and order *tumores*; he defines it, a hard tumour of some part, most frequently of a gland, not painful, and suppurating with difficulty. Dr. Aitkin reckons the *physconia* (a genus in Dr. Cullen's system) a species of *scirrus*. The *sarcocèle* he includes as another species. The seat of this kind of tumour is usually some glandular part; not but some other may be also, and sometimes is thus disordered. The fluids in the glands being inspissated, increase in hardness, and form a *scirrus*; or the contents of the lymphatic vessels in the liver, or other parts, coagulating, gradually harden, and form the like. It is probable, that *scirri* are formed by too free bleeding; for thus the circulation may be so diminished in its force as not duly to affect the smaller vessels, and thus obstructions may be formed, which end in *scirruses*.

All persons, and at any age, may be the subjects of this disorder; but the sedentary, and more particularly women, when their menses decline, and sometimes, indeed, at their approach, are most frequently thus disordered.

From the most attentive examination, it appears that the matter of these tumours is inspissated lymph. They often arise without any previous inflammation, from the proper fluid stagnating in the gland, or extravasation from contusion, &c. Sometimes it happens when a gland is the seat of an inflammation, and the inflammation terminates without coming to suppuration.

Externally, they are perceived by the touch. Internally, the evidences are obscure; but if the causes of a *scirrus* have occurred, and if some defects attend,

to which we may impute a *scirrus* as the cause, the existence of one may be suspected.

Though a *scirrus* does not always become cancerous, yet cancers are most frequently only *scirbi* in their beginnings. The effects of a *scirrus* will be various, and very different, according to the part it affects, and the functions which it injures. By pressing on the vena cava, a mortification in the legs has been produced; by pressing on certain nerves, epileptic fits have been produced. If all the glands in the neck are indurated, those of the mesentery will be so too, in which case a cure is not to be expected. A *scirrus* in the liver produces a jaundice, which is difficult, and often impossible to cure; and this jaundice is followed by a dropsy. A *scirrus* may press upon the thoracic duct as to occasion a fatal atrophy. Whether a *scirrus* is seated internally or externally, if it is affected by acrid humours, or inflammation, it becomes cancerous.

If an attempt is made towards the cure of a *scirrus*, we should be certain that it is recent and not yet quite hardened; and that it is in its benign state, i. e. that it is free from itching, heat, or pain; for after the appearance of any of these circumstances, nothing but a palliative cure can be admitted of, except the knife can be prudently used. In the earlier state of an external *scirrus*, gentle merourials are used internally, but with caution not to irritate; externally, cooling and anodyne applications only are to be employed; such as the aq. saturn. of Goulard; the *scirrus* part should be covered with soft leather to prevent the clothes from irritating it; whatever heats, softens, or can tend to produce a suppuration, must be carefully avoided; a solution of sal ammoniac in vinegar is applied externally as a resolvent; some apply the vapours of vinegar to the tumid part. If a *scirrus* is small, and continues of the same size, do nothing;

nothing; if it suppurates, increases, and is detached, extirpate it with the knife. Some good practitioners advise to extirpate these tumours as soon as they seem to resist the effect of gentle means made use of for resolving them, and that before any symptoms of their becoming cancerous appear. For correcting the faulty state of the habit, and for resolving *scirrhus* obstructions, the *hydrargyr. muriat.* given so as not to salivate, contributes much, if the bark, and the *extr. cicutæ*, accompany it; their united efficacy is sometimes such as cannot be produced by any two of them without the third.

What is here said of a *scirrhus* in general is applicable to a *scirrhus* in any external part; however, as there are some peculiarities from their situation, it may be proper to take notice of some of them.

A *scirrhus* may affect the sebaceous glands of the skin, particularly about the face and lips, where it is so very irritable, that whatever is applied occasions great pain, and therefore is called *noli me tangere*. Here Mr. Plunket's medicine (vide **CANCER**) may do well if the case be recent; but it should never be used unless we can remove the whole tumour. If we cannot effect this, we are at first flattered with the hopes of a cure; but the disease soon re-appears in another state, which carries off the patient. In short, whilst *scirrhus* tumours are loose, entirely free from pain, and the figure of the tumid gland is unchanged, whether the caustic or the knife are used, success may reasonably be expected, whether the situation of the disordered gland is in the face, or any where else in the reach of those means of relief.

A scirrhus in the breast. Whether the breasts of women are glandular or not, their structure is such, that indurated tumours are formed in them. Some tumours in the breast resemble a true *scirrhus*; but in time they inflame, suppurate, and end favourably; and

and it is not easy to give the discriminating signs with precision enough to be depended on in the beginning. It may be observed, that a genuine *scirrhus* seldom occasions uneasiness, except it becomes cancerous; and when an inveterate *scirrhus* seizes the breast, the subaxillary glands are generally indurated too. The breasts are sometimes rendered *scirrhus* by the imprudent application of the spirit of wine to them. About the cessation of the menses, the breasts of many women are thus affected.

A scirrhus in the tongue. A tumour of this kind sometimes happens in this part, and remains many years indolent; in which case avoid all attempts to remove it, as it may easily be made to become cancerous. If it should become painful, and is moveable, dissect it out; but if immovable, a portion of the tongue must be removed with it. If an hemorrhage ensues, it may be checked by some strong astringent wash; if it fails, ligatures must be employed; but if these cannot be adopted, the potential cautery must be used.

A scirrhus tonsil. The best method of removing this is by ligature, as directed in article *Polypus*. Vide *Bell's Surgery*, vol. iv. *Sharpe's Critical Enquiry*; *Heister's Surgery*; *Pearson's Principles of Surgery*, vol. i. and *White's Surgery*.

SCLOPETOPLAGA, from *Sclopetum*, a *Gun*, and *Plago*, a *Wound*. It is a species of *vulnus*, though some writers make it a genus of disease. This kind of *wound* is a contused *wound* in the highest degree. The ancients supposed these to be of a malignant poisonous nature from gunpowder; hence warm antiseptics, &c. were used; but the ill effects of *gunshot wounds*, are owing to contusion, laceration, &c. and require such methods to be pursued, as are directed in article **CONTUSA**; such as relaxing the parts by an emollient *cataplasma*; and if there is but one small opening, to enlarge it for a free discharge of

of matter, or to be able to extract foreign bodies, if it can be done easily. Sometimes by a counter-opening, the ball may be readily extracted with the fingers. When so, the opening should always be made; but, if by endeavours to remove them, you are likely to irritate, or give great pain, it will be best to wait until the inflammation, &c. is gone, and suppuration established; by which means you will have a larger opening, and extract any extraneous body more easily; for, at first, the orifice of a *wound* through which a ball has entered, by its contraction, is always exceeding small before suppuration commences.

Most limbs are taken off in the field of battle, and few of them recover. It is best to perform as few operations as possible in these cases; and, if you can, leave those few until some time after they have been wounded, as most of these, where amputation is performed immediately, die of the operation, as indeed they do in all cases where it is performed in high health. Limbs should not be amputated in the field if it can possibly be avoided. The inflammation should first be allowed to go off; and if ever from the nature of the *wound*, the inflammation that we suppose should attend it, should be imagined to hazard the patient's life, this should not be a sufficient reason for amputation, because the operation will more than hazard his life in such a situation and in such a state, as experience evinces.

The joints having been mashed by external force, or a ball having passed through them, seldom do well without amputation, especially if there is a great laceration of the ligaments, and a discharge of the synovia, with the admission of the external air; for the violent inflammation, sloughing, and discharge, bring on a hectic fever, which with, colliquative sweats, from the absorption of matter, will carry him off.

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It may be further observed, that injuries from small shot are rarely so prejudicial to the bones, as those from larger shot; from the latter, the bones are generally split or splintered, and require that amputation be performed above the joint of the part where the injury is received, if possible.

Those who assert that amputation should be quickly performed, when rendered necessary from gun-shot *wounds*, advance the following reasons: 1. When the injury is from large shot. 2. When violent symptoms come on. 3. When violent symptoms are overcome by medicines, yet there is still a necessity for amputation; these form the three stages from this kind of injury: and when it happens that a patient passes through the first and second, except perhaps one in one hundred, he is taken off in the third stage. Vide *Bell's Surgery*, vol. v. and *White's Surgery*.

SCORBUTUS. The Scurvy. Hippocrates describes it under the name of the diseases of the spleen, in his *De Intern.* Affect. Dr. Cullen places this genus of disease in the class *cachexiæ*, and order *impetigines*, and defines it, after living on putrid salted animal food, in a cold country, recent vegetable substances being at the same time wanting, there come on universal debility, attended with fetid breath, loose spongy bleeding gums, different coloured spots on the skin, most commonly livid, particularly at the roots of the hair.

The *scurvy* is a chronological disorder of the putrid kind, and when a fever attends it, is called the putrid fever.

The immediate cause is the same with those that produce the putrid fever, that is, putrescence. The mediate and more remote causes are whatever lessen the *vis vitæ*, too little or improper kind of food, a damp air, living in marshy countries, various kinds of acrid matter in the blood, a long use of mercury;

in the navy, a solution of copper from want of care to clean the vessels in which their food is boiled; animal diet which is not well preserved with salt; infection, &c.

The presence of this disorder is known by a pale, or a yellowish complexion, which gradually grows darker; a melancholy dejection of spirit, a lafitude, a stiffness in the joints, a feebleness in the knees, and on using the least exercise, there is great weakness, with a difficulty of breathing; the gums soon after begin to itch, swell, and bleed, on being gently rubbed, and have an unusual livid redness; they are soft, spongy, putrid and fungous; this change in the gums, Dr. Lind seems to think, is the pathognomonic symptom of the disease. Hæmorrhages also happen in other parts: the skin feels dry, except in the last stage of the disease, when a cold clammy moisture may be observed on the skin. In some the skin is rough, but generally it is smooth and shining, and covered with many spots, as if bruised; these are of a yellow or reddish colour, and as the disease increases, they become blacker. In some, the ankles swell towards the evening, and are settled again in the morning. Many other symptoms occur, but they are accidental. If a scorbutic diarrhœa comes on, and there is a pain in the breast, it is generally fatal. Ulcerated lungs are a frequent consequence of the scurvy: the stools are very offensive: the urine speedily becomes putrid. In the second stage, the patient sometimes loses the use of his limbs, the flexor tendons in the hams are contracted, the patient frequently faints upon the least motion; and, on being suddenly moved into the fresh air, it sometimes happens that he expires. Hæmorrhages from the lungs, intestines, &c. now are frequently happening: but the appetite is often good, though the spirits are low. The third stage has many violent; and usually fatal symptoms.

The *scurvy* should be distinguished from the ileum cruentum, the black jaundice, hypochondriac and melancholic disorders, some symptoms of the lues venerea, and scorbutic cachexy.

The indications of cure are, to stop the progress of putrefaction, and totally to remove it; secondly, to strengthen the habit in general.

If bad waters are the cause, or improper food, they must be changed for that which is more salutary; the air in the patient's room must be regulated by such methods as will render it dry and warm. Fixed air should be communicated to the water which the patient drinks; an infusion of malt, as recommended by Dr. Mac Bride, may be taken; it is this: Take of dry sound malt, fresh ground, one measure; infuse it for four, five, or six hours, in three measures of boiling water, then pour off the clear liquor. Let the patient drink, two, three, or four pints every day. The bark in doses as large as will be easy in the stomach, and repeat them two or three times a day. The acid of vitriol diluted may be also given frequently in the patient's drink.

If the patient is cold, pale faced, and has swelled legs; if his thirst is not great, he may take four or six spoonfuls of the following, three or four times a day: R rad. raph. hort. 3 iv. fol. cochl. trifol. palud. a m. ij. salvia. m. j. vin. alb. 1/2 vj. m.

If, on the contrary, there is a feverish heat, thirst, some difficulty in breathing, and the gums are putrid: R Rad. lapath. acut. 3 j. crystal tart. 3 iij. coq. per hora ss, in lact. vac. 1/2 iij. & colaturæ adde mel. brit. 3 j. m. cap. 3 iij. ter. die.

The roots of the herba Britannica, or the great water dock, is much extolled in this disorder.

Particular care is required to promote the discharges through the skin, and by the kidneys. And as to particular symptoms, some of the chief of which are as follow; they may be managed by these, or

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such like methods: the spongy gums may be washed with a decoction of the bark acidulated with the muriatic acid; if ulcers spread in the mouth, touch them now and then with the mel rosæ. acidulated with the same acid. If a salivation comes on, divert it by blisters on different part of the body, and finapisms to the soles of the feet and hams, and, if possible, excite a perspiration; for the stricture of the skin is the chief cause of this symptom, and here boluses of camphor, with some cordial mild opiate, may be repeated every four or six hours. If the legs are œdematos, use gentle frictions. Ulcers in the legs, &c. may be treated as those in the mouth are. In case of hæmorrhages, the mineral acids may be given at proper intervals. When a fever attends, the dulcified mineral acids, or Clutton's febrifuge spirit, may be joined with such other medicines as the peculiarity of the case requires. But though some advantage may be obtained by these particular administrations and applications, yet all these and the rest of the symptoms disappear in proportion as success follows the general method of cure.

Dr. George Fordyce observes, that the *scurvy* is taken off, or prevented by such food as is capable of being digested properly. Putrefaction of the fluid never produces a disease of itself, but only symptoms depending upon this; for when these symptoms are taken off, the patient recovers; and we sometimes see in putrid fevers, where the patient is considerably weakened, so that in all probability he could not survive many hours, yet there has been a sudden alteration take place; the symptoms of putrefaction immediately subside, and the patient recovers; if then we could give proper food, we might be able to prevent it, and could always cure it, when it has taken place. In order to the cure, any such loose food that has no medical property, is of great service; and the most powerful are those of the tetradymania class, such

such as cabbages, turneps, &c. for, first, they produce a fermentation in the stomach, and become acid, Secondly, they contain a quantity of essential oil, which makes the matter soon evacuate out of the body. Besides these, there are native vegetable acids, or acescent fruits to be got, which likewise prove useful; but then the difficulty is to find out any vegetable food, that will give a tendency to become acid, that may be kept on board a ship for the use of sailors: there are but few which we can preserve, and these are oranges, lemons, limes, &c. any of these, given with animal food, will be of use. Sugar is an antiputrescent, though not so powerful as the vegetables; but it was much used with food, &c. before vegetables came into use. These, then, are the methods to prevent and to cure putrefaction. Many have used remedies as antiputrescent, to stop putrefaction, hence they have given acids, &c. for that purpose, but they will not produce that effect. They have a tendency to prevent the peculiar fermentation taking place in the stomach, as well as to check putrefactive fermentation; hence vegetable food will not stop fermentation, but only tend to alter the mode of the fermentation, and rather tend to convert the substance into an acid than suffer it to putrefy. Another method to relieve from the *scurvy*, is to keep up the strength of the stomach, which has been of considerable service; hence, bark, &c. have been used, which are powerful remedies for that purpose.

Sir John Pringle, in his Discourse on the Improvements for preserving the Health of Mariners, says, that to know the nature and cause of the *scurvy*, is an essential step to the knowledge of the cure. He says, that on examining all the articles, which old have been used, and approved of, as well as those which of late have been introduced into the navy; however they vary in their mode of operating, they all,

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some way contribute towards preventing or correcting putrefaction. He directs that the men be put to watch at three watches instead of two; to this end, divide the crew into three companies, and put each company upon the watch by turns, four hours at a time; thus every man has eight hours free, for four of duty: whereas, when half the men take watch every four hours by turns, they can have but broken sleep; and when exposed to wet, they cannot get dry before they lay down. 2dly, To preserve the men from the injuries of the weather, in hot climates defend them by an awning over the deck; in cold ones, allow extraordinary jackets with a hood; and in wet weather, proper means for drying and shifting themselves. 3dly, Make a point of cleanliness; this guards from putrefactions: keep the men's persons, clothes, bedding, and births, clean: review the men, and all things belonging to them, and the ship, and see that all is as clean as can well be. 4thly, Ships should have the means of a constant supply of fresh water to wash the men's linen, for salt water neither mixes well with soap, nor dries readily. 5thly, Dry and air the hammocks, bedding, and all bundles, every day that is fair. By the perspiration of many men, every thing below deck will in twenty-four hours contract an offensive smell. 6thly, Purify the ship; scrape and wash the decks; purify the holds, and wells of the pumps; and where the bilge-water is, with fire, as follows: light a good quantity of wood, and put it into a proper grate, then carry it successively to every part of the ship below deck. Wherever fire is, the air nearest it being heated, becomes specifically lighter; and, by being lighter, rises and passes through the hatchways into the atmosphere. The vacant space is filled with the cold air around, and that being heated in its turn, in like manner ascends, and is replaced by other air as before. Thus by continuing the fire for

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for some time in any of the lower apartments, the foul air is, in a good measure, driven out, and the fresh admitted. And probably the acid steams of the wood in burning, act here as an antiseptic, and correct the putrid remains of the air. When fire cannot be put down into the well, and carried in other places, the ships may be fumigated by gunpowder to remedy the corruption of the air; or burning tar, or other resinous substances.

Dr. Hulme communicates fixed air to the stomach, &c. as follows: Rx Kali. gr. xv. aq. puræ ʒij. f. haust. As soon as this is swallowed, mix and take the following: Rx Aq. puræ ʒij. aciduli vitriol. q. f. ad saturat. salis ut in haust. precedent. Repeat this four times a day.

The *scorbutic* ulcer is also called the putrid ulcer. Its distinguishing characteristics are: it affords no good digestion, but a thin, fetid, sanious stuff, mixed with blood, which at length has the true appearance of coagulated gore, lying caked on the surface of the ulcer, and is with difficulty wiped off. The flesh underneath the slough is soft and spongy: if these sloughs are removed by escharotics, or the knife, they soon return; the edges are generally of a livid colour, and puffed up with excrescences of proud flesh, arising from below under the skin. From compression, the fungus is apt to mortify; and the member always becomes œdematosus, painful, and for the most part spotted. As the *scurvy* increases in the general habit, the ulcer shoots out a soft, bloody fungus, which the sailors call by the name of *bullock's liver*, which, indeed, it much resembles when boiled; it often rises in a night's time to a great size, and, if destroyed, will be re-produced to the same size in twenty-four hours. These ulcers do not speedily affect the bones. The slightest wounds or bruises in scorbutic patients degenerate into such ulcers. By their remarkable putridity, they are easily

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easily distinguished from all other kinds of sores. In some instances, these ulcers are attended with soft, spongy gums.

As an internal medicine when *scorbutic* ulcers attend, Dr. Kirkland highly recommends the muriatic acid given in water, or mixed with the bark.

Mr. Bell, in his Treatise on Ulcers, observes, that the cure of the *scorbutic* kind depends much upon the correction of the putrid diathesis in the system; for which purpose, vegetables, particularly the acescent ones, with milk and whey, are almost certain remedies. The different secretions, particularly those of the skin and bladder, should be gently promoted. In the *scurvy*, perspiration is almost quite checked. Gentle laxatives are of use, particularly tamarinds, crystals of tartar, &c. The best external applications are the ungt. *Ægyptiac.* vel, mel rosæ. cum paucul. sp. vitriol. In the milder instances, such as usually happen in England, the cause is more frequently from the want of due nourishment; hence what is called the antiscorbutic course will not be required; but in its stead, better food and greater plenty of it; a little good wine is a powerful aid. The bark is more useful in this than in any other kind of ulcer; it should be given as freely as the stomach will admit it. As a dressing, pledgets of lint dipped in a strong decoction of the bark will be useful in correcting the fœtor of the discharge, &c. though doubtless the carrot poultice far excels this decoction as a dressing. When the fœtor from the discharge is removed, and the sloughs only are to be removed, the ungt. resin. flay. with hydrargyr nitrat. will be the most convenient. Generally, the cure is finished by means of gentle pressure. Sometimes an iſſie becomes useful. What is said with regard to the treatment of *scorbutic* ulcers, is applicable to all such sores as are in the least connected with a putrefaction of the fluids, from whatever cause: thus such as

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as remain after critical abscesses that succeed to putrid fevers, require the same general method of treatment.

Vide *Lind* on the Scurvy; *Shebbeare's* Theory and Practice of Physic; *Macbride's* Essays, ess. 4. *Boerhaave's* Aphorisms. Med. Mus. vol. i. and ii. *Hulme* on the Scurvy; *Lewis's* Translation of Hoffman's Pract. of Medicine, vol. ii. p. 421, &c. *Bell* on Ulcers; *Cullen's* First Lines, vol. iv. *Trotter* on the Scurvy, Med. Trans. vol. ii. p. 325, 471; and Lond. Med. Journ. vol. ii. p. 137, 388.

SCROFULA. *The King's Evil.* The Latins call it *struma*, and *scrofula*, or *scrophula*, from *scrofa*, a hog or sow; because this disorder is observed in swine. It is called the *king's evil*, because Edward the Confessor, and other succeeding kings, both of England and France, have pretended to cure it by the touch. Dr. Cullen places this genus of disease in the class *cachexia*, order *impetigines*; and defines it, tumours of the conglobate glands, particularly of the neck, attended with a swelling of the upper lip, and column of the nose; a florid countenance, smooth skin, and tumid abdomen. He distinguishes four species. 1. *Scrophula vulgaris*, when it is without other disorders, external and permanent. 2. *Scrophula mesenterica*, when internal, with loss of appetite, pale countenance, swelling of the belly, an unusual fetor of the excrements. 3. *Scrophula fugax*. This is of the most simple kind; it is seated about the neck, and for the most part is caused by the resorption from sores on the head. 4. *Scrophula Americana*, when it is joined with the yaws.

Almost every part of the body may be affected by this disease; but it is only the lymphatic vessels in any part that is the immediate seat of it. The lymphatic glands of the mesentery are first affected. The conglobate glands are not affected otherwise than

than by being disturbed with the disorder of adjacent, conglobate, lymphatic glands. As the disorder attacks this or the other part, a variety of different symptoms are produced; thus, if the marrow is affected, the heads of the bones will swell, after which ulcers are formed with an oily fetid discharge: in the eyes it produces an ophthalmia, which again produces an anchylops and ægilops; in the eyelids an epiphora and lippitude, with foreness and ulcers; the globe of the eye is sometimes thrust out by these tumours; in the canthus of the eye it produces a fistula lachrymalis; in the nose an ozæna; in the lips, the labrisulcium, or thick pouting tumour, especially of the upper lip, with a fissure in the middle; in the throat, tumified tonsils; under the tongue, a ranula; on the wind-pipe, a bronchocele; under the chin, and in the sides of the neck, the *struma*, properly so called, which are encysted tumours, &c. The fixed, immovable, white swellings on the joints are of this sort.

This disorder seems to be hereditary, yet a generation, or, perhaps, two, may pass without its being manifested in them; but in the next it again revives: Boulton, in his *Surgery*, says, that the acidity of the pancreatic juice is the cause: be this as it will, it is something that coagulates the coagulable lymph; and very probably some kinds of diet, and other as yet unknown causes, may produce it. The indurated glands in the necks of children are often the effect of voracity, or from bad diet.

Children of *scrofulous* habits have usually a florid complexion, and a fullness of the face, more than is common to others; and the usual appearances of the *king's-evil* is that of scirrhous tumours chiefly in glandular parts, and which are rarely affected with pain, or brought to suppurate. A multiplicity of symptoms attend different patients, but only a few of them

them are observed in any individual ; but among the most frequent, besides the tumours just named, are a swelled upper lip, sores in it, and about the nose and cheeks ; the tumours sometimes break and run for a long time before they heal. The eyes are inflamed, and a very sharp humour runs from them, and corrodes the cheeks ; in the morning, the eyes are so glued, that they cannot easily be opened ; dry crusty scabs on or near the elbows.

The steatoma, atheroma, and meliceris, are often companions with the *scrofula*, and should be distinguished from it.

Mr. John Hunter says, that “ the *scrofula* is a disease so marked that few can mistake it. That it is hardly proper to class it amongst poisons, as it cannot be said to be catching ; yet it has the power of assimilating other matter into its own likeness. The matter is produced without inflammation. It does not produce any effect on the constitution, or on the absorbents ; or on the lymphatic glands ; but only a single gland will be affected. Hence the constitution is not affected. The pre-disposing cause, he says, is climate principally ; such as cold damps with alternate heats ; and between the latitude of forty-five north, and the higher latitudes, are those places where it rages with the most violence. In England, and in Germany, it is common ; but whether it is found in the southern latitudes, is not known. That cold is a pre-disposing cause of it, is evident from its not being known in the warm, constant climates. Persons are continually affected with it, who come from hot to cold climates ; and those are cured who go from cold to warm ones. It is generally supposed to be hereditary ; but the circumstances that gave rise to this opinion are very erroneous ; for, suppose that one person in twenty has this disease, and not more than one in twenty of their children have it, we cannot properly therefore call it hereditary ; as many children

children have it, whose parents have it not ; and many parents have it, whose children have it not ; that it runs in families is certain ; but it is where the remote or pre-disposing cause is hereditary. If the *scrofula* was an hereditary disease, we should have it in all countries, which we have not ; it is not even so far hereditary as likenesses. The weak and debilitated habits are most likely to have it ; they are the most susceptible of the various actions, and the parts the most exposed to it are the most debilitated, as well as the age that is most disposed to it is the most delicate."

If a strumous humour touches a bone, it becomes carious : though when this disorder affects children, it usually disappears when manhood arrives ; yet, if it appears after the age of forty, the patient rarely recovers ; but other disorders, such as the jaundice, faintings, vomitings, a cough, dropsy, &c. coming on, they usher in death. If the tumour arises from a caries in the bones of the fingers or hands, the cure is difficult ; but if the caries is in the foot, the discharge generally exhausts the patient. If any of the tumours ulcerate, they cannot be healed whilst any of the cyst remains, or any part by which they are nourished ; as to extirpating those tumours, there is but little encouragement. When a scrofulous tumour is unequal, it is apt to become cancerous. If many of the glands of the neck are indurated, those in the mesentery are so too ; and the greater the number of the disordered parts are, the greater is the difficulty of even palliating them.

A great variety of alteratives are mentioned in different writers, each of which, in particular instances, have been of use ; but yet none of them are to be depended on in any case. When the blood is poor, and the fibres lax, the bark is the best known medicine ; and, though in some few instances it cannot be prescribed, yet in most it is manifestly useful

Dr. Lewis thinks its efficacy is improved by the use of aq. calcis ostr. in conjunction with it: The bark does not succeed where the bones are affected, nor where the scrofulous tumour is situated so as to be attended with much pain, as in the joints, and under the membranous covers of the muscles; in those cases, it is observed, that the bark rather increases the fever; but as opium, when given as an alterative, has been very useful in scrofulous disorders, so its accompaniment with the bark may be followed with advantages not to be obtained by either separately. Narcotic plants, that abound with a volatile salt, are powerful in resolving the scrofulous tumours, and amongst these the hemlock has been found to be eminently useful, when applied in the form of a cataplasma, and also when the extract has been taken inwardly; though the internal use is more proper in adults than in infancy and youth. The hydrargyrum, if given as is usual in the lues venerea, has been followed by the happiest effects. Dr. Smith directs a decoction of the rad. rub. tint. to be drank with it. Mr. Pott advises in all scrofulous affections, to produce large artificial purulent discharges, such as issues, and perpetual blisters. With respect to medicines in general, in a *scrofula*, advantage is slowly obtained. The bark, hemlock, sea-water, &c. should be given as circumstances require. Dr. Saunders, in his Lectures on the Practice of Physic, recommends that, when the bark is continued two or three weeks, during which time the patient is much better, and a cure seems to advance fast; but after this, it seems to have no farther effect, and, perhaps, the disease seems to gain upon the patient; in such a case, to prevent habit from rendering the bark ineffectual, begin immediately with the cicuta, or with sea-water, or such other remedy as at that time may appear most proper, and continuing it a while, return to the bark; and thus alternate the

medicines every two or three weeks, or as their efficacy is perceived to abate. The force of habit powerfully destroys the effect of means: it is therefore necessary to alternate them. He farther advises to avoid all that can suppurate, for it is useless. In general, we may say, that to increase the tone of the fibres, and to resolve the tumours, are the principal endeavours towards a cure; to these ends, the bark, chalybeates, sea, and coldbathing, mercury, hemlock, burnt sponge, &c. In glandular and scrofulous tumours, the bark does not promote suppuration but resolution; and there are not many symptoms depending on *scrophula*, but what give way to it. Gentle mercurials are often useful as resolvents in scrofulous swellings. Strong purges, and whatever enfeebles the habit, will prove pernicious. Gross habits will require frequent but gentle purging. Externals are of little or no use. Palliatives should not be omitted, although a cure is not hoped for. Living in the sea-air, and tepid salt-water baths, have been found highly efficacious. Poultices of sea-water and oatmeal have been applied to the tumours with advantage. Internally, the terra muriata ponderosa, mezereon, sarsaparilla, and salt soda, mixed with the Jesuit's bark, have been used with advantage.

When tumours burst, the scrofulous ulcer is formed. These never yield a good discharge; on their first appearance, there is a viscid, glairy, and sometimes a whitish curdled matter, which afterwards is changed into a more thin, watery sanies. The edges of the sores are frequently, though not always, painful; and are at first raised or tumefied, but afterwards are much thinner. So long as the scrofulous disposition subsists in the habit, these ulcers generally remain a long time without shewing any disposition either to heal or to grow worse. At other times, they heal very quickly, and again break out in some other

part of the body. Some observe, that scrofulous ulcers have their surface rather convex, and with an uniform glossy appearance. Mr. Bell observes, in his Treatise on Ulcers, that so long as the general morbid diathesis continues in the system, it is commonly in vain to attempt their cure; nor would it indeed often be safe, as by drying up the sores in one part, they very commonly break out elsewhere, and just as readily fall upon the lungs, or some other organ of consequence to life, as on any other. Until the *Scrofula* is removed from the habit, all that should be done to the ulcers which are produced by it, is, to produce as free and open vents to the matter as possible, without endangering the formation of sinuses. The best applications are saturnine preparations. Mr. Aikin, in his Observations on the External Use of Preparations of Lead, says, that emollient applications of all sorts are highly injurious when applied to scrofulous ulcers: by weakening the solids, already too much disposed to relaxation, they prevent all endeavours of nature to bring about a firm incarnation; and by giving the fluids an acrimony, to which in this disease they are not remarkably disposed, they occasion a kind of erysipelatous corrosive spreading of the ulcer. The mischiefs occasioned by emollient applications are still more clearly shewn, by the speedy change produced by almost every kind of topics of the opposite classes, the astringent and the stimulant. The most simple of the astringent and stimulant, viz. cold water, has frequently a good effect on throwing aside every dressing, and washing the sore with it. Water, with every kind of saline and mineral impregnation, is also used to advantage; particularly sea-water, and Goulard's saturnine water. The greasy, saturnine applications are improper in these cases. A continuation of such simple dressings as these, is all that, in general, should be attempted, so long as any disorder

of the constitution may remain; but Mr. Bell observes, that in some cases, the ulcers are so inveterate as to require other aids also; as when they become swelled, painful, and discharge a corroding, acrid matter: when such appearances occur, a carious bone may frequently be suspected to be at the bottom of the sore, and then nature must be assisted, by freeing her from such parts of it as are most diseased, and that are become loose. This, in some situations, may be done; but when the complaint is fixed in any of the large joints, art can rarely afford much assistance; and as amputation is not often adviseable, from the risk of the disease returning to some other part, nature alone must often be trusted to. In such a situation, a continued use of sea-bathing, the bark, with hemlock, particularly to promote a proper discharge from the sores, must be employed. And when, by a due use of the necessary means, there is a tendency in the sores to heal, issues should be formed, so as to produce a discharge as nearly equal to that from the sores as may be; thus the cure is carried on, both more effectually and safely. These issues are generally required through life. Gentle compression is peculiarly useful in this kind of ulcers: it particularly prevents and removes that thickness in their edges that sometimes is observed. These, in general, are the means that assist and are most useful, when there is a tendency in nature to overcome the disease: but it being, in general, an opprobrium medicorum, it is difficult to assert with much positiveness concerning it. *Vide Heister's Surgery; Boulton's Surgery; Ferne on the King's Evil; Cheyne on the King's Evil. Lond. Med. Obf. and Inq. vol. i. p. 184—200, 303—322; Bell on Ulcers; Cullen's First Lines; White on the Scrofula; Bell's Surgery, vol. v. and Kirkland's Med. Surgery, vol. ii.*

SCROTUM, is the external covering of the Testicles. The *scrotum* is liable to inflammation and abscess,

secess, which sometimes are attended with a considerable degree of fever, and that not without danger of life. If possible, endeavour to remove the inflammation without permitting suppuration to take place: to this end, bleeding and other antiphlogistics must be directed; discutient cataplasms applied cold, and renewed as often as they become warm; and, if possible, confine the patient to his bed. The *scrotum* should be suspended in a bag-truss, so that it may be kept near the belly; and if it is thought proper to encourage a suppuration, let a fomentation be used warm, at least twice a day, and after each time of fomenting, a poultice applied warm, and renewed as often as it becomes cool. In this case, the patient must be supported with a generous diet and proper cordials, such as the cort. Peruv. rad. serp. rad. contray. in substance or in form of decoction as may seem most eligible, the conf. aromat. is also to be added, and if pain requires it, an opiate occasionally.

When, by the size and prominence of the swelling, the softness of the integuments, their shining red colour, the peeling off of the cuticle from the cutis, the mitigation of pain in the part itself, an œdematos appearance of the integuments upon being pressed, but above all, the fluctuation of matter under the fingers, it appears that maturation is perfected; then open the tumour in its most depending part. If the tumour be large, and the integuments thin and much discoloured, remove an oval piece; thus you will be able more effectually to apply the full dressings. As soon as the matter is discharged, fill the wound with soft lint, and over it apply the poultice, or apply a pledgit of soft tow with some emollient ointment spread on it. The future dressings may be the ungt. resinæ flavæ, or other digestive. At the end of the two first days, the dressing should be renewed twice in twenty-four hours, and thus continue on account of the

acrimony and quantity of the discharge, so long as may be thought necessary, not forgetting to use an emollient fomentation, for the space of ten or fifteen minutes previous to each dressing. If the discharge is thin, finous, or corrosive, sprinkle some brandy or camphorated spirit of wine upon each fomentation cloth. If after the operation any considerable hardness of the integuments shd. still remain, continue to apply the suppurating poultice, at each time of dressing, over the pledgets of digestive, until the hardness is removed. The use of the bark alone, or with the rad. serp. V. or rad. contray. or a decoction of these; as also the vitriolic acid, in the patient's drink, will generally greatly support the patient's strength, and alter the matter in its quality.

ANOTHER afflictive disease is too often met with in the *scrotum*, viz. the *cancer*. It seems peculiar to chimney-sweepers; hence is called the *chimney-sweepers' cancer*, the *chimney-sweepers' wart*, and the *foot wart*. From whatever cause it may be, it is evident, beyond a doubt, that chimney-sweepers are peculiarly liable to this disease in this part. Mr. Pott seems to be the first writer who has noticed it; he thinks it may be owing to a lodgment of foot in the rugæ of the *scrotum*, and at first not be a disease of the habit.

He farther observes, that it always makes its first attack on, and its appearance in, the inferior part of the *scrotum*; when it produces a superficial, painful, ragged, ill-looking sore, with hard and rising edges. It does not usually appear before, whence it is often taken, both by the patient and the surgeon, for venereal; and being heated with mercurials, is soon and much exasperated: in no great length of time, it pervades the skin, dartes, and membranes of the *scrotum*, and seizes the testicle, which it enlarges, hardens, and renders truly and thoroughly distempered; from whence it makes its way up the *spermatic*

matic process into the abdomen, most frequently indurating and spoiling the inguinal glands: when arrived within the abdomen, it affects some of the viscera, and then very soon becomes painfully destructive.

The only chance of putting a stop to, or of preventing this mischief, is immediately to remove the part afflicted, i. e. that part of the *scrotum* where the sore is. If it be suffered to remain until the virus has seized the testicle, it is generally too late, even for castration. If ever extirpation bids fair for the cure of a cancer, it seems to be in this case; but then the operation should be immediate, and before the habit is tainted. When it reaches the testicle, it is rapid in its progress, and most certainly destructive in its event: early extirpation is therefore the only cure.

FISTULOUS ulcers are sometimes met with in the *scrotum*, if these communicate with the urethra, a particular attention thereto will be required in attempting to relieve. The causes may be an abscess in the *scrotum*; a wound made through the *scrotum* into the urethra; the venereal disease first affecting the urethra, and from thence producing the ulcer in the *scrotum*, &c. The external sore is generally very small and sinous; the lips grow callous; the discharge is thin, copious, and almost continual; and if there is a communication with the urethra, the urine will more or less escape through the external wound at the times of making water; it will also insinuate itself into the cellular membrane of the *scrotum*, and its neighbouring parts, and be therein confined; whence many inconveniences arise that cannot be removed until the orifice made through the urethra is healed.

When this disorder originates in the urethra, it may be known by introducing a catheter or bougie; for an obstruction will be met with there: when it is

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is caused by an abscess forming itself within the cellular membrane near the urethra, or in the corpus cavernosum urethræ, there will be little or no resistance met with from the bougie. As to fistulous sores, callosities, enlargements, and distensions in these parts, it is worth remembering, that although the disease should appear to be not confined to the *scrotum*, but that it extends to the perinæum and nates, and there be many external fistulous openings through the integuments of these parts, yet these shall, in some instances, be discoverable only on opening into the urethra; to remove which, should be the primary attempt of the surgeon, as the cure of the whole very much depends, if not altogether, upon this very circumstance; and of this be assured, that the permanency of the cure of every wound, however circumstanced, depends upon the roundness and firmness of its foundation at the bottom.

When a venereal cause gave rise to this disorder, the judicious introduction and use of bougies, made of a proper size and stiffness, joined with mercurial frictions, applied near to, or immediately upon, the diseased parts, in proper quantities, at proper intervals, and continued for a due length of time, joined with soft, oily purges, occasionally administered, and soft, diluting drinks, will often render every severe operation unnecessary; though the circumstances attendant upon the complaint, be of a bad and complicated kind.

Vide Pou's Works; Warner's Cases in Surgery; Warner on the Testicles; and White's Surgery.

SETACEUM; a *Seton*, so called from *setæ equine*, *horses' hairs*, because horses' hairs were first used for keeping the wounds open. The operation for a seton is thus: Elevate the skin with a finger and thumb, an assistant doing the same at about an inch from where you hold it; and having armed a large broad

broad crooked needle with as many threads as may be necessary, pass the needle through the stretched skin, bring the threads a little way through, and there leave them; rub a little of the thread, as much as will pass into the felon at each time of dressing, with the unguent resin. flav. move the thread forward once or twice a day; thus the discharge is promoted, and may be continued at pleasure.

The method of evacuating large collections of matter by introducing a felon into the body of the tumour, as recommended by Mr. Bell, has these advantages over incision. The discharge is made gradually; the cicatrix it occasions is neither inconvenient nor unseemly, and a cure is often obtained in half the time that is necessary after a large incision. Vide *Bell's Surgery*, vol. iv. *Bell on Ulcers*; and *White's Surgery*.

SPERMATOCELE, from *σπέρμα*, *semen*, and *κύνη*, *a tumour*; is a morbid distension of the epididymis and vas deferens, produced by a stagnation of *semen*. This may be produced by *tumours*, *stricture*, or *inflammation*, about the *caput gallinaginis*, or in the course of the *vas deferens*; but there is reason to think, that it is more frequently induced by the last, viz. by *inflammation*, than by either of the other two.

When an inflammatory affection of the parts is discovered to be the cause of the disease, general and topical blood-letting, gentle laxatives, a low cooling diet, and rest of body, will commonly be found the most effectual remedies. And again, when *tumours* are discovered to press upon the *vas deferens*, they ought either to be brought to suppurate, or their extirpation should be attempted when that can be done with propriety. At other times, these *tumours* are found to depend on a venereal cause; and in such instances,

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instances, a well directed course of mercury has been known to remove them.

On some occasions, it is said, that, all the other means having failed, castration has at last been found requisite. But this cannot be supposed to be a very necessary step. Vide *Bell's System of Surgery*, vol. i.

SPINA BIFIDA, also called, *Hydrops Medullæ Spinalis*. Sagar says, that it is a true dropsy of the thecæ *spinalis*. It is a tumour of the colour of the skin, and is seated upon the vertebræ of the neck, back, or loins, or on the sutures of the skull. It receives its name from the processes of the spine being wanting, where it is. It is known by its situation, its being always there at the birth of the patient, its watery contents, and the palsy, which usually attends it. Dr. Cullen names it **HYDRORACHITIS**, a genus of disease, which he places in class *cachexiæ*, order, *intumescentiæ*, and defines it a soft small tumour above the vertebræ of the loins, the vertebræ opening beneath.

This disorder is incurable. For the most part, those children on whom these tumours are found, die in a day or two. If this tumour is opened, death is speedily the consequence. Dr. Mackenzie, professor of midwifery in London, gave a drawing which was a case of this kind, and with which the child lived four months; but at length died in convulsions. Mr. Warner gives an instance of this disorder in a young man of twenty years old. Vide his *Cases in Surgery*, and *Bell's Surgery*, vol. v.

Mr. Abernethy, at the end of his *Account of Lumbar Abscesses*, proposes an attempt at the cure of this malady. He says, a gentle degree of pressure may be made on the tumour from its birth, or at its commencement, which might produce the absorption of any deposited fluid, and thus prevent the distention of the unsupported *dura mater*. Should the fluid,

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fluid, notwithstanding, continue to increase, he thinks, as death would be inevitable on its bursting, a puncture, with a finely cutting instrument, and thereby discharging the fluid, is vindicable. Endeavour to heal the wound immediately, and by bandage and other topical applications, repress a future collection.

SPINA VENTOSA, also often called, *A White Swelling*. Mr. Sharpe says, the *spina ventosa* is a caries of a bone, attended with an internal corruption of its whole substance, and generally arising from a putrefaction of the marrow, by which the periosteum and ligaments, as well as the bone, are totally destroyed.

Mr. Pott divides this disorder into the *Hydrops Articuli*, and *Fungus Articuli*, or thickening of the ligaments of the joint, and the enlargement of the bones. The first of these often comes on suddenly, is of short duration, and goes off as suddenly; it often happens in a relaxed habit, from a want of lymphatic absorption, from relaxation, from an obstruction of the lymphatic circulation in the joint; it sometimes happens in rheumatic habits. The second is generally known by the uniform swelling of the parts growing very hard, so as to destroy all distinction; and lastly, by an inflexibility: this usually ends in amputation.

Dr. White, in his *Surgery*, says, it is a tumour, which takes its rise in the internal parts of the bone, and gradually enlarges its substance. It is frequently hard, and without much pain; sometimes it appears as if it were puffed up with air, and is attended with shooting prickling pains. It gradually extends itself to the periosteum and integuments, which cover or lie near the part affected, and, in the end, produces an ulcer of the most stubborn kind. It is not confined to the cylindrical bones; it affects those also of the head, face, neck, back, and chest, though the former are the most frequent seats of the complaint.

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It is most injurious when fixed on the heads and processes of bones.

In the milder species from external injury, cold applications, with Goulard's water of acetated ammonia, &c. have been of service. Mercurials and alteratives have checked its progress. When there is a pricking pain and burning heat in the incumbent parts, and they are discoloured, an ulcer is certainly forming withoutside the bone, and the bone should be laid bare by an incision. Proceed then as directed in Articles, *Caries* and *Exostosis*. When the whole substance of the bone is diseased, particularly in or near a joint, amputation is the only resource; but it is justly observed, by M. Le Dran, that the operation should not be performed on the bone which is diseased. Vide *Bell's Surgery*; *Pott's Works*; *White's Surgery*; and articles, **DISTORTIO**, section *Distortion the Spine*,, and **HYDARTHROUS**.

STAPHYLOMA. This term comprehends two disorders of the eye; one, when the *tunica cornea* is gradually rendered protuberant; the other, when the *pupilla* breaks forth upon the *tunica cornea*, and deforms the eye with the tumour, like *σαφυλη*, a grape, by which the sight is destroyed. These tumours, from their different forms and sizes, assume different names; as *margarita*, *myocephalon*, *clavus*, *mylon*, *pomum*, *uva*, or *acinus*; according to the resemblance they bear to things whence they are named. Sauvages signifies by this word, a dropsey of the cornea. Not only the cornea, but also the sclerotica, is also sometimes swelled, and occasions great pain and violent inflammation, which sometimes ends in a suppuration, or a cancer. Mr. St. Yves proposes to extirpate the tumour, and then dress with lint dipped in brandy and water; after which the artificial eye may be fixed. If the case is slight, compresses of alum water may be laid on, and the patient may lay continually on his back.

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For the most part, the cure is not undertaken to recover the sight, but only to remove the deformity and the bad symptoms.

Vide Article HYPOPYON, also *Bell's Surgery*, vol. iii. *Wallis's Sauvages's Nosology of the Eye*; and *White's Surgery*.

STEATOMA, from *στατός*, *suet*. A species of tumour. Vide Article NÆVUS. Mr. Hill, in his *Cases of Surgery*, says, in general, all encysted tumours, when small and properly situated, may be turned out entire, without opening the cyst, by a cross cut through the teguments, and by raising up the four corners. Where the tumour is so large, that this mode cannot be adopted, Mr. Hill advises a circular incision to the cyst, round the body of the tumour, then gradually raise it up, dissect it out of the subjacent teguments, and bring the lips of the wound together. This may be done by the interrupted suture, or by sticking plaster. Before the incision is made on the body of the wen, it should be pressed down, and the teguments pulled back as far as possible, as is practised in amputations, otherwise they will not cover the wound. Mr. Hill has digested cut some wens, by running a seton chord through the length of them, and continuing it for many mouths. Care must be taken to pierce the cyst at the bottom, otherwise the seton may cut through the top of the wen, and leave the under part untouched. Vide *Bell's Surgery*, vol. v. and *Richter's Medical and Surgical Observations*.

STREMMMA, from *σπίρει*, *to turn*; *a Strain*. When a membranous or tendinous part is stretched beyond its proper limits, it is said to be strained. This accident happens chiefly about the joints, occasions weakness and pain there, with swelling, and often a total inability to move. A *strain* approaches very nearly to the nature of a contusion, and, as in contusions, rest, with the application of warm vinegar, three or four times a day, will be proper; or a

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poultice wjth vinegar, oatmeal, and crumbs of bread ; in proportion as the symptoms abate, let a little spirit be added to the vinegar, which now may be used cold, and a bandage may be made use of to support the weakened part, until the natural degree of strength returns. Dr. Lobb advises the use of vinegar, and of rectified spirit of wine alternately, first rubbing in the vinegar, then, two or three hours after, rub in the spirit.

Cold water is used by some ; but if the *strain* is deep, it does no service ; if there is inflammation, it does harm, so that it is only in slight and superficial, and these must be recent cases too, in which it can be of service. In almost every case of strain, topical blood-letting, with a brisk purge should be directed, in order to prevent inflammation. *Vide Bell's Surgery*, vol. v.

SURDITAS, *Deafness.* The causes are, the loss of the external ear, wax or other matter lodged in the external ear, a rupture, or a relaxation of the membrane of the drum of the ear, a palsey, or a pressure on the auditory nerve, violent noise, obstruction of the Eustachian tube, cold, inflammation, abscess, the lues venerea, &c. The most fréquent of these causes is hardened wax in the meatus auditorius, which may be softened and removed by frequent injections of warm water.

In case of a relaxation of the membrana tympani, a little warm brandy, or spirit of rosemary, may be dropped into the ear now and then.

If the Eustachian tube is obstructed, relief is sometimes obtained by chewing a crust every morning and evening.

Sometimes sternutatories have relieved when the cause has not been known.

When a defluxion of humours are the cause, an injection may be made as follows, and used night and morning : *R Cerus acetat. gut. xxv. sp. vin. C. gut l. aq.*

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I. aq. puriss. ℥b ss. m. Vide *Bell's Surgery*, vol. iv, and *Memoirs of the Medical Society of London*, vol. i.

SUTURA, *a Suture*, in surgery, is the uniting the lips of a wound by sewing, and these are of four kinds :

1. *The twisted suture*. It is also called the circumvoluted *suture*. This is used for the hare-lip, and in a few other instances. It is performed by introducing two or more pins through the whole substance of the lips of the wound, then twisting a waxed thread about them in the form of the figure 8.

2. *The interrupted suture*, also called the knotted *suture*. It is performed with a needle armed with a waxed thread, by thrusting it through both lips of the wound, then tying the thread in slip knots, making a number of stitches according to the length of the wound, at an inch from each other. The needle should go to nearly the bottom of the wound. Mr. Justamond advises a particular regard to the direction of the longitudinal fibres of muscles in forming this *suture*, and not so much to regard the direction of the wound; for if we do not pass the ligature in the direction of the fibres, it will be a continual stimulus, excite the muscle to action, and occasion a perpetual tugging of the ligature, whence pain, inflammation, &c. will follow. Mr. Bell, in the first volume of his *Surgery*, advises, in forming this *suture*, to carry the needle and ligature to the bottom of the wound, so as to afford but little chance of matter collecting underneath; and, farther, he directs both ends of the thread to be passed from within outwards; which is readily done by using two needles upon each thread instead of one. A needle being put upon each end of the same thread, and each needle being inserted at the bottom of the sore, and pushed outwardly, so as to pass out at a proper distance from the edge of the wound; the needles are then to be taken off, and the threads

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allowed to remain till all the ligatures are passed, which the extent of the sore seems to require. In passing the ligatures, pierce the skin from near half an inch to near an inch from the lips of the wound; these distances will include all the varieties in the size of wounds. As soon as the threads are all passed, the lips of the wound ought to be pressed together, and supported by an assistant till all the ligatures are firmly tied.

3. *The quilled suture*, so called because the knots were tied upon quills, which were laid over the dressings that immediately covered the lips of the wound.

4. *The glover's*, or *uninterrupted suture*, called also the spiral or the continued. It was used in wounds of the intestines and stomach. For these purposes Mr. Bell prefers the interrupted suture.

There is another species of suture, which is termed the *dry*, or *false suture*. It is made by two pieces of sticking plaster, each the length of the wound, to which very narrow tapes are fixed at due distances. Apply one piece near one edge of the wound, and the other piece near the other edge; then gently draw the two sides of the wound together, and draw over the tapes; the tapes should exactly correspond; the knots must be slip knots. Or take a slip of plaster, the length of the wound, and cut longitudinal holes in it, then apply one side near the edge of the wound, bring the lips close, and then apply the other. After the application of this suture, the uniting bandage is convenient to support it. Vide *Heister's Surgery*; *Le Dran's* and *Sharpe's Operations*; *Bell's Surgery*, vol. i. and *White's Surgery*.

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TIBIA. *Tibia*, or *Hautboy*, which this bone resembles, and hence called by this name: *the larger bone in the leg*. It may be proper here to observe a process for relief when bones are carious, which frequently prevent an amputation. If the *tibia* is carious to a considerable depth (vide article **CARIES**) remove the carious part as follows: first cut through the skin (the whole length of the part we mean to remove) on each side, sawing as much of it as you can; then cut it across the bone above and below. Having done this, clear off the muscular flesh, by dissecting it as clear as can be admitted from the bone, and preserving it as much as possible: then introduce a thin plate of pasteboard, horn, or tin, over the upper part of the bone to be removed, and so as to support the skin. After this, clear away the periosteum from the parts on which you apply the saw. The saw should be strong, and of a circular form, to prevent wounding the adjacent parts. Having divided the bone above, do the same on the lower part, taking care to include all that is diseased. The carious part of the bone being removed, the wound will not appear so large as may be imagined.

This is certainly a less formidable operation than amputation, but whether it is to be preferred, is a point I cannot venture to determine. It should be remembered, however, that there have been instances of osseous matter shooting and forming a complete bone, when nine inches or more have been removed.

T I B

Mr. White, of Manchester, preserved an arm, by sawing off the head of a diseased humerus. Mr. Park, of Liverpool, afterwards proposed removing the ends of bones at the joints, as a general remedy in affections of the joints. He supposes the operation will be chiefly applicable to the affections of the knee and elbow, and more particularly to those of the latter. Vide an Account of a New Method of Treating Diseases of the Joints of the Knee and Elbow, by *H. Park*; and *White's Cases in Surgery*, with Remarks, part. i.

Mr. Park relates a case of white swelling of the knee, in which he successfully removed the under extremity of the femur, and the upper end of the tibia. In ten weeks, the cure of the sore was obtained; the limb became so firm, that the man has since been able to go to sea as a sailor, and does not even use a crutch. The operation was performed thus: An incision was made, beginning about two inches above the upper end of the patella, and continued about as far below its lower extremity: Another, crossing this at right angles, immediately above the patella, the leg being in an extended state, was made through the tendons of the extensor muscles, down to the bone, and nearly half round the limb; the lower angles, formed by these incisions, were raised so as to lay bare the capsular ligament: The patella was then taken out, and the upper angles were raised, so as fairly to denude the head of the femur, and a small catlin was passed across the posterior flat part of the bone immediately above the condyles, care being taken to keep one of the flat sides of the point of the instrument quite close to the bone all the way. The catlin being withdrawn, an elastic spatula was put in its place, to guard the soft parts, while the femur was sawing through: which done, the head of the bone thus separated, was carefully dissected out; the head of the tibia was then with

with ease turned out, and sawed off, and as much as possible of the capsular ligament dissected away, leaving only the posterior part covering the vessels.

TIBIALIS ARTERIA; the tibial Artery. Mr. Pott relates the following important particulars respecting this artery: In the upper part of the calf of the leg, under the gastrocnemius and soleus muscles, a small hard tumour is at first perceived; it is sometimes painful, at others not much so, but always impeding the patient's exercises; it does not alter the natural colour of the skin until it has considerably increased in the bulk; it enlarges very gradually; it does not soften as it increases, but continues through the greatest part of it incompreissibly hard; and when it has got to a large size, it seems to contain a fluid which may be felt towards the bottom, or resting as it were on the back part of the bones. If an opening is made for the discharge of the fluid, it must be made very deep, and through a very distempered mass; this fluid is generally small in quantity, and consists of a sanies mixed with grumous blood: the discharge of it produces very little diminution of the tumour; and in the few cases that have occurred to him, he says, that very high symptoms of irritation and inflammation came on, and advanced with great rapidity and exquisite pain, soon destroyed the patient, either by the fever, which ran high, and was unremitting, or by a mortification of the whole leg. If amputation has not been performed, and the patient dies after the tumour has been opened, the mortified state of the parts prevents all satisfactory examination; but if the limb was removed without any previous operation, the arteria *tibialis postica* will be found to be enlarged, distempered, and burst; the muscles of the leg to have been converted into a strangely morbid mass, and the posterior part of both the tibia and the fibula more or less carious. This disease derives its origin from a bursten artery, or is always accompanied with it, and is remedied by amputation

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putation only. Vide Mr. *Pott's* Remarks on the Necessity, &c. of Amputation in certain Cases, &c.

TRACHEOTOMIA, Tracheotomy. It is the making of an opening into the trachea. This operation is also called *bronchotomy*, and *laryngotomy*. This operation is made by incision, or by puncture, betwixt the third and fourth ring of the trachea; or if this place cannot be chosen, the opening may be made a little lower. When the skin is cut through, a small incision may be made into the wind-pipe, and then a short but crooked canula may be fixed there for the air to pass through. Vide *Sharpe's Operations*. *Bell's Surgery*, vol. ii. and *White's Surgery*.

Mr. Sheldon observes, that it is very happy, both for the surgeon and the patient, that this operation is very rarely required. When it is attempted, he advises to perforate below the thyriod gland; to cut cautiously between the two sterno mastoid muscles longitudinally, carefully avoiding to wound the vein of the thyroid gland, as it will bleed plentifully. Care must also be taken, that no blood is permitted to fall into the larynx, as it will undoubtedly suffocate the patient. Lastly, when the trochar is introduced, let it not touch the back part of the larynx, because of the irritability of its membrane. It is a difficult operation, but it is best performed on those who have thin long necks.

TRACHOMA, from πράχη, rough. In Cullen's *Nosology* it is a variety of the *ophthalmia tarti*. A roughness of the eye-lids, particularly their internal parts. This roughness is from a sort of scabs, which differ much in their appearances in different instances. These complaints are attended with a weight and heaviness in the eye, a swelling in the eye-lids, a pain and itching, a heat and redness in the corners, and in the conjunctiva; a viscid humour, mixed with pungent tears flowing from the ulcers, which when very strongly so, closes the eye-lids together. If this complaint continues long in old people, the lower eye-lid grows

grows thick, and turns downwards, so that the cartilage resembles raw flesh. The original cause, is a saline humour, which is thrown on the eye-lids; the immediate cause, is little ulcers there. A cure is sometimes performed, by touching the part with a caustic; but the caustic is no sooner applied, than the pain which it occasions must be allayed, by washing with warm water: apply the caustic twice a week.

St. Yves on the Disorders of the Eyes.

Mr. Ware calls this disorder the *psorophthalmia*, and describes it as follows: The ducts of the ciliary glands are ulcerated; when it happens that the oily soft fluid, secreted by these glands, being mixed with the discharge from the ulcers, is changed into an acrid humour, which quickly inspissates into an hard adhesive scab. This scab lodging on the orifices of the ducts, spreads the complaint, by the irritation which it occasions, over the whole internal edge of the eye-lid, and prevents the possibility of its being relieved, until local remedies are applied, to prevent the formation of the scab, by curing those ulcers which served to produce it. This inflammation of the eye-lids being attended with an ulceration of their edges, a glutinous matter issues out, and when they have been some time in contact, as during sleep, they become so closely connected, as to require painful efforts for their separation. Usually, the ulcers are confined to the edges of the eye-lids, but sometimes they spread over the whole external surface, and even excoriate the greater part of the cheek: in cases of the latter kind, the inflammation which accompanies, has often much the appearance of an erysipelas. This disorder is sometimes attended with a contraction of the skin of the lower eye-lid; in consequence of which, it is drawn down, and the inner part turned outward, so as to form a red, fleshy, and very disagreeable appearance.

To form a clear idea of this disease, it should be remembered, that, on the inside, and near to the edges

edges of the eye-lids, is situated a number of small glands, secreting a sebaceous fluid, which is excreted by a row of ducts opening immediately on the inner edges of their border. These ducts, and sometimes the glands themselves, appear to be the parts principally affected; and the fluid which is secreted by them, instead of being moist and mild, serving as a defence against the acrimony of the tears, is changed into a sharp, acrid, and adhesive humour, which causes a constant irritation of the eye and eye-lids, ulcerates the inner edges of the latter, and, for want of proper attention, has often perpetuated the disorder for a great number of years. M. St. Yves observes, in his chapter on the ophthalmia, subsequent to the small-pox, that “ the pustules on the edge of the cartilage of the eye-lids, which penetrate between the cilia, and their inner surface, do not cicatrize, by reason of the acrimonious serosity which incessantly humects the eye; hence follow ulcers, which last sometimes several years, and even during life, if they are not remedied.” But though the small-pox and measles, are frequent causes of this complaint, they are not the only ones; an inflammation of the globe of the eye, in itself but small, will sometimes affect the lids, so as to cause them to swell, and become red; in consequence of which, there will be an adhesion of one to the other, and often an universal ulceration of their edges. The small pustules, also, which form on the outer margin of the ciliary edge, where the lashes grow, and are known by the name of styces, have, in some instances, brought on an inflammation, which has been contiguued to the sebaceous glands, and produced all the consequences above described. This disorder is often spoken of as symptomatic, and the effect of scrophula, scurvy, or lues venerea; but it is very often, if not most frequently, a local complaint; it cannot be known to be any other, except by such symptoms as mark the presence of these disorders.

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orders. Yet, though this disease most commonly takes place without any other complaint, at least as far as can be discovered, it is yet necessary to be observed, that it is sometimes accompanied with the plainest marks of a scrophulous constitution, and seems evidently to arise from it.

Those ulcerations that appear to be superficial, are not generally tedious to remove; but if they are deep, they are much more difficult to cure than these attended with fungous flesh.

In order to the cure, it has been the general custom to touch the edges of the eye-lids, where the ulcers were spread, with the lapis infernalis, perhaps two or three times a week; but to moderate the severity of this method, the part was presently washed with pure water. However, the pain excited by this application, seems much to have deterred from its use; and Mr. Ware has proposed a method of relief, equally effectual, but by far less exceptionable. He directs, when this kind of inflammation extends over the whole surface of the eye-lid, and on the cheek, having the appearance of an erysipelas, that it be treated with antiphlogistics and sedatives; and when the extreme irritability is removed by proper applications, to finish the cure by means of the ungt. citrinum, Ph. Ed. used as hereafter directed.

Sometimes, the lower eye-lid turns outward in this disease, which then proves obstinate to cure, but with due perseverance it is overcome by the general method proposed for the *psorophthalmus*.

If in any instance, other symptoms evidence the presence of a scurvy, scrophula, or venereal taint, those diseases must be relieved, before any benefit can be procured for that of the eye-lid. When a scrophula is the source of this disease, though the patient is perfectly cured, as far as respects the external symptoms, there is still a danger of its returning; to prevent which, such means as are used in scrophulous

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lous cases should be continued for a considerable time after.

With respect to the *psorophthalmia*, the first endeavour should be to soften the scabs, and remove them, and to use such applications to the ulcers as may correct the acrimony of the discharge, promote digestion, and bring them into a state of healing. The intention of M. St. Yves, in his direction for the cure of the ulcers, on the edges of the eye-lids, subsequent to the small-pox, does not appear to be much unlike that which I have here mentioned, as appears from the following quotation: “Ophthalmic waters, in general, are of very little service; but I have found, from my own experience, that, by touching them with the lapis infernalis, they cicatrize easily. The violent heat of the caustic must be abated, as soon as they have been touched, by washing the eye in a small glass full of warm water; you must, above all, take care that the part of the eye-lid which was cauterized, may not bear against the globe of the eye, till the pain is entirely gone off. They may be touched in this manner once or twice a week, until they seem to require no more use of the caustic; then lay on these places tatty, finely powdered, to cicatrize them.” M. St. Yves here recommends a very strong caustic; but on a part so tender, a milder application will succeed, as is evident from the advantages attending that which I have preferred, viz. the ungt. citrin. now called *Unguentum Hydrargyri nitrati*, which is made thus: R Hydrargyri purif. 3j. acidi nitrofi 3ij. axungiæ poricinæ pp 1b. in acido nitroso solvatur hydrargyrus, & delinquorum adhuc calentein misce cum adepe suilla primum liquefact, postea aeri expedita & jam concrerente. It may be used as follows: Hold the ointment before a lighted candle, so that its surface may be melted into an oily consistence; take this oil on the end of the finger, and carefully rub it on the edges of the affected eye-lids. The use

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of it, once in twenty-four hours, will be sufficient; and that should be when the patient goes to bed: immediately after the application, a soft plaster, spread with the cerat. alb. Ph. Lond. is to be bound loosely over the eye-lids, which will preserve them moist and supple in the night, and contribute to prevent their adhesions to each other. If, notwithstanding this cerate being applied, it should be difficult to open the eye-lids in the morning, they may be washed with milk and fresh butter, well mixed together, and warmed, by which the patient will be able to open them without pain. If the eye-lid is very irritable, the melted ointment may be applied with a camel-hair pencil: indeed, sometimes the irritability is so great, that before the ointment can be applied, other means must be used to remove that symptom, as is already noticed.

If, in consequence of this disease of the eye-lid, the eye itself should be inflamed, the usual methods of relieving an inflamed eye may be used. *Vide St. Yves on the Diseases of the Eye. Ware's Remarks on the Ophthalmia; and Wallis's Sauvages's Nosophy the Eyes.*

TREPANATIO, the Operation of Trepanning. The intention of this operation is to remove a compressing body from off the brain, whether it be bone, serum, blood, or pus. Some practitioners of eminence, advise the application of the trepan in every case of injury to which the head is exposed; while others, equally eminent, forbid it in every case, except where the skull is depressed. Air is certainly a powerful stimulus to parts not accustomed to its application, and the admission of it to the dura-mater, is, undoubtedly, hurtful; but the point to be determined is, whether the consequences arising from the non-performance of the operation, counterbalance the bad effects of exposing the dura-mater to the air? To decide this question, I am of opinion, requires

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more experience than falls to the share of any individual practitioner.

The parts of the skull which should not be touched in this operation, if they can be avoided, are, almost all the under part of the temporal and parietal bones; all the under part of the occipital bone; the inferior part of the frontal bone; and the whole course of the longitudinal sinus. But when the depressed pieces of bones, says Mr. Bell, cannot be raised without applying the trepan over these parts, no delay should be allowed in performing the operation on any part. Indeed, it has been performed on most of them with the best success.

The operation being determined on, the patient should be laid on a firm table, with a pillow under his head, in which state it must be firmly secured by an assistant. Make an incision as directed in the article **SCALPO**; remove a portion of the integuments for the application of the trephine, but not more of the pericranium than is positively necessary. The temporal muscle may be divided without danger. If, in making the incision, you divide any arterial branch, and the patient is of a robust habit, let it bleed, but if debilitated, secure it. Now ascertain the part to apply your perforator, by the trephine, and place the pin at the edge of the fracture not depressed, so that the head of the trephine may include a portion of the depressed piece. As soon as the hole is sufficiently large to receive the point of the pin in the centre of the circular saw, this should be inserted into it, to fix the instrument during the first part of the operation, and when a cut is formed in the bone sufficient to retain it, remove the pin. Now proceed with great steadiness, and with as equal a degree of pressure as possible, till the perforation is completed. Always suppose you are trephining a thin skull. Withdraw your instrument frequently, and clear it of the blood and particles of bone with a brush; and to ascertain the depth of the cut, each time the saw is taken out, introduce a probe, or a quill, not

very sharp-pointed. If the cut is deeper in one part than another, the pressure must be so regulated, as to render it equal, or nearly so; as soon as the piece is loose, take it out with the forceps, and if the lower edge of the perforation is rough, smooth it with the lenticular; this done, raise the depressed piece of skull with an elevator, which now is made with fulcra, to rest on the sound bone; after this, if extravasated matter seems lodged under the dura mater, open it with a lancet for its discharge. When the trephine is used on account of a fissure, it must be applied so as to include part of it, if not directly over it, as it is most likely that the extravasated blood or lymph will be found directly under it; and when the fissure is of a considerable extent, a perforation must be made at each end, if not more. When several perforations are to be made, in order to the removal of several depressed fragments of bone that have their internal surface larger than their external, it is necessary to apply the trephine as near the fracture parts as they will admit of, making the perforations adjoining to save the trouble of cutting the intermediate spaces with the head-saw. In places where the unequal thickness of the skull is observed, it is best to elevate the piece that is sawed before it is cut quite through, thus the membrane will be unhurt. When an injury happens on a suture, and it is not thought adviseable to use the trephine there, make a perforation on each side of it. By the trephine having removed the pieces of bone, and thereby prevented all the present and future ills dependent on their remaining; after this, the dressing should accord with the general intention of not irritating, and should be as innocent in quality, and small in quantity, as possible; a piece of lint, spread with some bland ointment, is all that can be wanted; this may be kept on by a common woollen cap, which is preferable to any bandage whatever. After dressing, lay the patient in as easy a posture in bed as possible, and with his shoulders

raised high. Perfect quietude, open bowels, and the vessels emptied by venesection, and a low diet, are to the full as necessary before as after removing the pieces of the skull. The air of the patient's room should be temperate. In young people, the perforations are in time filled up, with a substance that is of a bony hardness; but in adults this does not happen so perfectly. Sometimes a fungus proves troublesome, which may be prevented from rising to any considerable height, by touching it frequently with the argent nitrat. And where the insensibility is great, a ligature may be used to remove it; but never use compression.

The cure being completed, the bone, where much of the integuments have been destroyed, will be covered by a thin cuticle only, with, perhaps, a very small portion of intermediate cellular substance; in which case, a piece of tin or lead, lined with flannel, should be fitted to the part, to protect it from the effects of cold and other external injuries.

Though the *trepbine* is almost universally employed for this operation, Mr. Bell prefers the *trepan*, and some other practitioners also conceiving the *trepan* to be more advantageous, but dreading the risk of its passing too suddenly in upon the brain, commence the operation with this instrument, and finish it with the *trepbine*. Vide *Bell's Surgery*, vol. iii. also *Heister's Surgery*. *Sharpe's Operations*. *Pott's Works*. *Gooch's Cases and Remarks*, and *White's Surgery*.

TRICHLIA, or *Trichiasis*, from Τρίχη, a Hair. It is also called *entropium*, *distichiasis*, *districhiasis*. It is, when the cartilage on the edge of the eye-lid is so inverted as to bear upon the conjunctiva, and the cornea *transparens*; then the friction of the eye-lashes excites an inflammation in the eye. According to the author of the *Definit. Medicæ*, it is, "A falling of the eye-lids, and a preternatural generation of hairs on them." He makes three sorts, to which he gives the names of *phalangosis*, *ptosis*, and, *hypophysis*;

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hypophysis; and, as some say, a fourth, viz. *distictia*.
Vide article BLEPHAROPTOSIS.

The friction of the eye-lashes in this case, brings on defluxions and inflammations, if not prevented by pulling out the hairs, one by one, at such distances of time, as may be necessary for preventing inflammation.

In Dr. Cullen's Nosophy, this disease is an instance of symptomatic ophthalmia, called *ophthalmia trichiasis*.

Mr. Ware, in his remarks on the ophthalmia, &c. distinguishes as follows, betwixt the inversion of the upper and under eye-lids, both as to the cause and cure: and speaks,

First, *of the inversion of the upper lid*.

The upper lid and its ciliary edge (he observes) are preserved, both in motion and rest, in their natural situation, by the equal, though contrary, actions of the *musculus orbicularis*, and *levator palpebræ superioris*. The skin of the upper lid is always very thin, flaccid, and folded. When, therefore, the *trichiasis* affects the upper lid, it appears to be produced by a relaxation of the *levator palpebræ superioris*, and a contraction of the superior part of the *orbicularis*. The cure, either in the upper or lower lid, is palliative, or radical. It is only palliative, when, in order to relief, the eye-lashes are extracted by their roots. The radical cure is affected by detracting the ciliary edges, and preserving them in their natural situation. The cause being a relaxation of the *levator palpebræ superioris* muscle, an incision must be made through the integuments of the upper eye-lid, from the inner angle of the eye to the outer; then the fibres of the *orbicularis* muscle must be so separated, as to denude the expanded fibres of the *levator* muscle, as near to their termination in the edge of the lid as possible; which being done, apply a small cauterising iron, adapted to the convexity of the globe of the

eye, and made pretty warm, by passing it two or three times over the tendino-carneous fibres. Thus, by producing a slight irritation (which produces the same effect, as is often observed to happen after burns, particularly in the hands, after which the fingers often contract, and in many instances, have remained contracted ever after) a cure may be expected.

Secondly, *of the inversion of the lower lid.*

The lower lid, whose motion is very small, in comparison of that of the upper, is preserved in its natural state, by the equal action of the orbicular fibres spread over it, and the thickness and tenacity of the skin which covers it. When, therefore, a *trichiasis* is produced in the lower lid, it can only arise from a relaxation of the skin, and a contraction of the inferior part of the orbicularis. The cure will necessarily be effected by increasing the tenacity of the skin to such a degree, as to prevent the contraction of the *musculus orbicularis*. When the case is recent, a cure has sometimes been effected, by forming a fold in the skin before the inverted lid, to draw its edge from the eye, and preserving the skin in that state by the application of sticking plaster: or, by means of an instrument similar to that contrived by Bartischius (and represented by Heister, plate 15, fig. 20.) to pinch up a small portion of the skin, and hang thereby on the cheek; which by its weight, answers the same purpose as the plaster, and is less liable to lose its hold. In slight cases, the skin may recover its tone by these means; but in others, it will be necessary to cut off a small transverse portion of the loose skin below the edge of the lid, and afterwards confine the sides of the wound together by means of a suture.

It is remarked by Gottlieb Richter, in his Medical and Surgical Observations, that the external skin of the eye is so extensible, that much more of it should be cut than appears necessary.

Sometimes

Sometimes there are instances, in which none of the above methods will suffice; as, where the ciliary edges are not only inverted, but likewise contracted or shortened in their length. In this case, the circumference of the ciliary edges must be enlarged either by an incision at the outer angle, or by a complete division of the cartilage, called tarsus, in the middle. The first of these operations, is no more than a simple straight incision, which may be made with a sharp-pointed curved bistoury. The last, which is seldom necessary, will be best performed by the same instrument; only observing, that the point be carefully introduced between the globe and eye-lid, and carried below the cartilage (that is about $\frac{1}{8}$ of an inch;) whence it is to be pushed outward in a horizontal direction, till it has cut its way through the lid. The cartilage being thus entirely divided, each portion will recede towards the angles, and a separation be left between them, which will not only take off the complaint at present, but prevent its return for the future. Vide *Bell's Surgery*, vol. iii. *Ware* on the *Ophthalmic*. *Wallis's Sauvages's Disorders of the Eyes*, and *White's Surgery*.

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ULCUS; *an Ulcer*. It is a solution of continuity in a soft part made by erosion. Wounds degenerate into ulcers, when by a fault in the humours there is a farther loss of substance. A loss of substance in the bones from erosion, is called a caries. Though when an abscess is opened for the discharge of its contents, it is usually spoken of as an ulcer. Dr. Cullen places this genus of disease in the class *localis* and order *diu-lysis*. He defines it to be a purulent or ichorous solution of a soft part.

Ulcers receive different names from their causes, figure, the parts they affect, &c.

External *ulcers* are discerned by the eye, but when they are internal, they are discovered by what is discharged in one or other of the excretions.

Their danger will be judged of by the quality of the *ulcer*, the part affected, and the strength of the patient.

The symptoms which attend and retard the healing of *ulcers*, are inflammation, pain, a fluxion of morbid humours, spungy flesh, &c.

Mr. Sharpe observes, that except the callous and the sinuous *ulcer*, and the *ulcer* with a caries in the bone, the cure of all the other kinds depend chiefly on that of the morbid habit of the body in general. If the body is free from every degree of cacochymy, the healing of an *ulcer* is the work of nature, and all that topical applications have to effect, is the maintenance of the fibres in such a moderate state betwixt laxity and rigidity, as will render them most able

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able to carry on this natural operation. While an inflammatory hardness exists, an emollient poultice laid over the dressings will relieve, after which, dry lint generally suffices, or, at the most, it may be moistened in some mild astringent, to give a tone to the new flesh. When a too great laxity, or a sponginess, is observed in *ulcers*, gently stimulating and bracing applications are requisite.

The three kinds of *ulcers* which Mr. Sharpe mentions, as more particularly depending on external management, are so frequently joined with, or arise from a morbid habit of body, that regard is first to be had thereto, and when this kind of obstacle to healing is removed, apply emollients to the callus on the edge of the *ulcer*; or in many instances success will follow the use of a mixture of *basilicon*, with a little finely powdered precipitate. Vide *Heister's Surgery*; and *Sharpe's Operations*, in the Introduction.

Mr. Bell, in his Treatise on *Ulcers*, divides them into two classes, viz. 1. Such as are merely local, and that do not depend upon any disorder of the system. 2. Such as are the consequence of, or that are connected with any disorder of the constitution.

The species belonging to the first class, are, 1. *The simple purulent ulcer*. 2. *The simple vitiated ulcer*. 3. *The fungous ulcer*. 4. *The sinuous ulcer*. 5. *The callous ulcer*. 6. *The carious ulcer*. 7. *The cancerous ulcer*. 8. *The cutaneous ulcer*.

The species belonging to the second class are, 1. *The venereal ulcer*. 2. *The scorbutic ulcer*. 3. *The scrophulous ulcer*.

The simple purulent ulcer is a local affection; it has the symptoms common to all such disorders, as pain and inflammation, in a very inconsiderable degree, whilst the discharge afforded is always of a mild purulent nature, and of a proper consistence; the granulations which arise in it, are of a firm, fresh red, healthy appearance. This *ulcer* is the most simple

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simple that can occur, both in its symptoms and method of cure; and it is to its state, that all others must be reduced before a permanent cure can be expected. In the cure of this species of *ulcer*, as there is very little inflammation, and no preternatural swelling supposed to take place, but merely a vacuity, either from a real loss of substance, or from a retraction of parts simply divided, the discharge at the same time being of a mild purulent nature, the only indications that appear necessary are, **FIRST**, *To diminish, as much as possible, any vacancy the ulcer may have occasioned*; to accomplish which, the formation of new granulations, and the decay of such parts as are immediately contiguous to the *ulcer* are requisite. To effect the formation of new granules, inflammation and acrimony must be removed, and pledgets of lint, spread thinly with the ungt. cereum, Ph. Edinb. may be applied every twelve or twenty-four hours, to the surface of the sore. If inflammation attends the *ulcer*, moderate it by the application of warm emollient cataplasms; but as soon as this inflammation subsides, omit the cataplasms, lest an excess of laxity be produced. Thus, by mild dressings, irritation is prevented, and by preserving a proper degree of heat in the part, a good matter will be produced, and firm granulations. To diminish or destroy the parts about the *ulcer*, such as fungous flesh; as soon as the inflammatory state is over, and good matter is induced, slight compression, by means of a roller, may be immediately applied, and should be continued during the remainder of the cure. The roller should be applied so as not only to act as a gentle pressure upon the parts immediately surrounding the *ulcer*, but likewise to serve as a support to the skin, and other teguments, so as to prevent their retraction, which otherwise, in large *ulcers* especially, is very ready to happen. **SECONDLY**, *To induce the formation of a cicatrix*. This is frequently effected

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effected by nature alone ; but, in many cases, when every deficiency appears to be even thoroughly supplied, yet still a cure is tedious in accomplishing ; the surface of the sores remaining raw, and, at the same time, discharging considerable quantities of matter. In such cases, the ointment used for the preceding part of the cure must be laid aside, and dressings of a more drying nature substituted in its stead. In this view, the ungt. e ceruss. a. &c. is preferable to the cerat. lapidis calaminaris. Sometimes the cicatrization will be soon perfected, by dabbing the part or parts, twice a day, with aq. calc. si. and still dressing with the ungt. e ceruss. If the cicatrization is prevented by spongy granulations or even firm ones arising above the skin, they may be checked by dry lint applied to them, or perhaps a gentle compress may also be required ; sometimes a slight application of the vitriol. r. may be necessary to check the luxuriancy. It is very rare that a caustic is required.

The simple vitiated ulcer differs from the simple purulent *ulcer*, chiefly, in the appearance and nature of the discharge afforded. The most common appearances of such deviations in the matter afforded by *ulcers*, from the more natural state of purulent matter, are sanies, ichor, or fordes. In every *ulcer* discharging any of these matters, in consequence of the acrimony that subsists in them, the parts, instead of filling up with firm granulations, waste away more and more, and instead of a reddish complexion, have either a dark brown, or a blackish, rough, sloughy appearance. The pain in all of them is more or less considerable, according as the matter is more or less corrosive. As the simple purulent *ulcer* happens most frequently in the fleshy parts, where the cellular membrane affords a fluid most plentifully, that is proper for the formation of pus ; so the simple vitiated *ulcer* is most frequently seated near the tendons

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dons or aponeurotic expansions of the muscles, from these parts not naturally affording that species of serum necessary for the formation of salutary pus. Accidental inflammation about the *ulcer*, or a general ill-habit of body, may also be occasional causes of this species of *ulcer*, even in parts best disposed to produce the matter formed in the mildest kind of sores. In order to moderate the symptoms peculiar to this kind of *ulcer*, and reduce it to the state of the simple purulent one, the principal endeavours will be, to ease pain, and to aetate irritation; to which end, warm emollient fomentations and cataplasms are effectual; they should be continued until all appearance of inflammatory tendency is removed. The part may be fomented three or four times a day, for half an hour each time, with an emollient decoction, and then a pledgit spread with the ungt. cereum, Ph. Ed. may be applied; as the pain is more or less, so a more or less free use of opiates inwardly, will be necessary to remove irritation. The habit of body demands attention also; if too much exalted, it must be lowered; if too low, it must be supported and raised: and, generally, it is in this latter instance that these *ulcers* are met with. Here a free but prudent use of the cort. Peruv. is singularly beneficial; sometimes 3j. is required six or eight times a day: in plethoric habits; and in inflammatory constitutions, great caution is required in the use of this medicine. If any general disease attends, its removal must be duly attended to, in order to the cure of this as well as every other *ulcer*. This *ulcer* now reduced to the state of a simple purulent *ulcer*, proceed as in that case directed. Sometimes more difficulty attends the cicatrization of these *ulcers*, when they have been of long standing; but, besides the method proposed for cicatrizing the simple purulent *ulcer*, an issue inserted in a proper situation, will generally finish the cure.

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Some have extolled the efficacy of nitre, in this species of *ulcer*.

The Fungous Ulcer, by some called the spongy *ulcer*. Fungous excrescences frequently occur in different species of *ulcers*. By the term fungous, is understood such preternatural risings of the parts in sores, as are more soft and spongy than sound healthy granulations; and though soft at first, by continuance they acquire an extraordinary hardness. These excrescences are sometimes very painful also. In young and healthy habits, the new granulations which arise in *ulcers*, often advance too quick, and presently are above the surface of the neighbouring parts; and in other instances, for want of care, wounds and *ulcers* are permitted to fill up without being sound at their bottoms; whence, as causes, this sort of *ulcer* generally occurs. In order to a cure, the two just named causes are to be regarded. If the fungus arose from luxuriance of health merely, its surface may be slightly touched with the agent. nitrat. once in two or three days, and immediately after, a pledgit of dry lint may be applied. If the basis of the fungus is narrow, it may be best removed by a ligature. The fungous removed, proceed as in cases of the simple purulent *ulcer*. When the fungus is of that kind which happens when the bottom of the *ulcer* is not sound, it rises quickly, and is not so firm as the first mentioned sort; in this case, first give a free vent to any impacted matter, and then attend to the progress of healing from the bottom. This fungus is soft, and wastes away in the progress of the cure, without requiring escharotics.

The Sinuous Ulcer. Vide article **FISTULA**.

The Callous Ulcer; called also the varicous *ulcer*, from a mistaken opinion that they proceeded from, and were nourished by matter from the swelled veins, which seem to open into them. An *ulcer* is said to be callous, when its edges, instead of con-

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tracting, and so diminishing the size of the sore, keep at a stand, turn ragged, and at last, by acquiring a preternatural thickness, often rise considerably above the level of the neighbouring parts: and as it is generally from neglect or improper treatment that *ulcers* do turn callous, the discharge afforded by them is commonly a thin vitiated matter. It is in this species of *ulcer* chiefly, that varicose veins occur as a symptom, especially when the complaint is settled in the lower extremities. This seems to be owing chiefly to the stricture occasioned by the callosities on the course of the different veins, a circumstance, which, in extensive sores of this kind, must, no doubt, have a considerable influence. Escharotics have generally been used to destroy callosity on the edges of *ulcers*; but as they tend to increase the disease by the continual inflammation they excite, they are now much laid aside, and in their stead, emollients, with the assistance of warmth, are substituted. By the use of a warm emollient poultice, and a reclined posture, *ulcers* have been healed; though, on adopting this method, their state was very unpromising. Yet sometimes the callosities are so hard, as to require their destruction either by the knife, or the caustic; and if the last is preferred, the *argent. nitrat.* is the best; with this the hardened parts may be touched, every two or three days, and when they are duly wasted, the *ulcer* will probably be reduced to the state of the simple purulent one, and like that may then be treated. To strengthen and restore the veins, that were rendered varicous about the callosities, a tight stocking, or a spiral bandage will be useful, but not before their having been continued for a long time. Callosity frequently attends venereal and cancerous *ulcers*: in these cases, the state of the constitution in general must be attended to.

The Cancerous Ulcer. Vide article **CANCER.**

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The Carious Ulcer. By this term is intended that species of the disorder, which is connected with a local affection of a bone. If such an accident happens, as bruises, lacerations, and injuries of the periosteum, it sometimes terminates in a caries; in such a case, by the end of three, four, or five days, the bone begins to lose the natural healthy appearance, turns first of a pale white, then gets a slight tinge of a yellow complexion; and whenever this begins to appear, there cannot be a doubt of what will be the consequence. Sometimes it will continue in this state for many days, and by degrees acquire a more deep tallow-like appearance, in which way it commonly remains for a longer or a shorter time, according to the violence of the inflicting cause, and afterwards goes through the stages of brown, light, dark, &c. until it acquires a darkness of the deepest dye. The discharge from such *ulcers*, is never of the consistence of good pus; it is generally thinner, and from the first appearance of caries, acquires a most disagreeable *fœtor*, which always increases; as the different stages of the disorder advance, at last it appears blackish, as well as the bone underneath, and the discharge, at this time, is exceedingly acrid. As the several degrees of blackness go on, small holes are formed in the diseased parts, and by degrees increase considerably, until even the most solid bones acquire a kind of spongy appearance. In this situation, the mortified portion of the bone generally becomes loose, and when pressed upon, a quantity of greasy-like matter, with a most disagreeable *fœtor*, is generally forced out; this matter so taints the whole discharge from the *ulcer*, and gives it such a peculiar smell, as to render it scarce possible, after once seeing an instance, ever to mistake it again. This last circumstance alone, is a certain characteristic of a carious *ulcer*. Farther, in *ulcers* attended with a carious bone, the fleshy parts never have a

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healthy appearance, are soft and more flabby than in their natural state, and instead of a florid red, have rather a dark brown, together with somewhat of a glazed complexion. The granulations push forward too quickly and too far, if they are not prevented by art, which is always necessary to be done, until the diseased part of the bone is either cast off by nature's process, or cut out by the surgeon, so that the cure may take place with certainty, from the bottom of the sore. And when neglected for any considerable time, these soft productions in carious *ulcers* frequently increase so remarkably as to form very large and troublesome excrescences. These appearances happen whether a portion of the bone, or its whole substance, is carious. When the whole bone is affected, the progress and its various symptoms are more rapid, and the whole bone must be removed; whereas, when a part of the bone only is affected, perhaps a single lamina, to the extent of the diseased part, is all that will be separated and removed. So long as the caries remain, it effectually prevents the *ulcer* about it from healing; if by chance it appears to be healed, it soon breaks out again. When a probe can be introduced at any opening, to reach the bone, if a roughness of its surface is discovered, the case becomes then altogether evident. Though the bone cannot be reached by the probe, for want of an opening, the appearances of the *ulcer*, and the kind of discharge, will rarely fail to determine what kind the *ulcer* is of; for if the bone is carious, the *ulcer* is flabby, and instead of a regular surface, the new granulations sprout up in different clusters, of the size of small nuts, and instead of a healthy strong appearance, have usually a dark brown complexion; the discharge is thin, dark-coloured, and greasy, there is also more or less of the peculiar *fœtor* above named. Before this *ulcer* can be cured, the carious part of the bone must be separated from the sound,

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found, and taken out; in order to which, vide article **CARIES**. After the removal of the carious bone, the remaining sore must be treated in the same manner as directed for that species of *ulcer* to which, at the time, it appears to belong.

The Cutaneous Ulcer. Vide articles **ACHOR**, and **HERPES**.

The Venereal Ulcer. Vide article **LUES VENEREA**.

The Scorbutic Ulcer. Vide article **SCORBUTUS**.

The Scrophulous Ulcer. Vide article **SCROFULA**.

However similar the general practice may be, there are some peculiarities proper to *ulcers* on particular parts, some instances of which are as follow:

An Ulcer in the Bladder. It should be distinguished from an *ulcer* in the kidneys, which see. *Ulcers* are not so frequent in any of the urinary passages as they seem to be thought; they are often suspected from a slimy discharge, which is of a yellowish colour, and proceeds from weakness. When an *ulcer* is formed in the bladder, there is a discharge of foetid matter, or blood; and sometimes a sort of scales, or a membranous pellicle, are seen in the urine. There is also a continual dysuria, and a pain in the urinary passages. The means of relief are similar to those for an *ulcer* in the kidneys.

An Ulcer in the Kidneys. Dr. Hunter observes, that though the kidneys are often found wasted, they are hardly ever seen ulcerated. Cheselden observes, that it is very rarely that an ulcerated bladder is met with in the bodies that are obtained for dissection. Oribasius observes, that an *ulcer* in the kidneys may be distinguished by the following circumstances, from the same disorder in the bladder: 1st, When the bladder is affected, the pain is felt in the pubes, and the bottom of the belly; but when the kidneys suffer, the pain is in the back-part of the loins. 2dly, When the bladder is the seat of the disease, there is a difficulty, if not a suppression of urine;

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but when the kidnies are in fault, the urine passes freely. 3dly, From the bladder there is voided membranous scales, but from the kidnies fibrous pieces of flesh are voided. 4thly, A violent pain is felt in the bladder when it is ulcerated; but when the *ulcer* is in the kidnies, the pain is of a dull kind.

The urine looks like milk when it is first made from an ulcerated kidney, but is not fetid; but on standing a while, the white matter falls: when the pain is considerable in the kidnies, it occasions a nausea, and sometimes a vomiting. When an *ulcer* is suspected in the kidnies, the patient should abstain from acrid, sour, and salt diet; he should live on mild mucilaginous aliments; such as the broths of young animals, whey, milk, sweet butter-milk, &c. Violent exercise must be avoided, chalybeate waters should be drank a long time, and solutions of the mildest balsams may be taken now and then.

Ulcers in the Legs. In these cases a confinement in bed is usually demanded as necessary in order to the cure. In some instances, amongst labouring people, some advantage is obtained from rest: but, in general, these *ulcers* are most firmly healed, when moderate exercise is continued during the cure. Some are afraid of healing *ulcers* in this part, lest an asthma, or other complaint, should follow; but if the general health is not defective, or if it can be restored, there will rarely, if ever, any ill consequences follow from the healing of them. On this subject, Mr. Bell observes, in his Treatise on *Ulcers*, that it has been almost universally recommended never to attempt the cure of such as have been of long standing, as, from the very acrid matters which they are frequently known to discharge, it has been commonly imagined that drying up such sores might prove dangerous to the constitution. But he is of opinion, that no such acrid matters, as are frequently observed

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observed to be discharged from *ulcers*, ever subsisted in the blood. The acrimony which, in such cases, occurs, is produced, he thinks, in a great measure, by some particular affection of the organs, which separate those fluids from the blood, from which the matter, by its remora in the cavities of *ulcers*, is afterwards formed. He farther observes, that *ulcers* are hurtful or beneficial to the constitution, not by the quality of matter discharged, but by the quantity; hence, he says, the cure of every sore, of what ever continuance, may be rendered perfectly safe by the previous introduction of an issue, which discharges a quantity of fluids, equal to the discharge occasioned by the sore to be healed up. He asserts from extensive experience, that no inconveniences ever result from the practice; and hence concludes that the cure of every *ulcer* may be attempted. The general intentions in the cure of *ulcers* being attended to, and a tight stocking worn over the dressings, such other means may be directed as the experience of the practitioner, and the circumstances of the case may suggest. Mr. Underwood observes, that in the cure of an *ulcer*, the first object is, to bring it to discharge a laudable pus, and this, he asserts, the most inveterate *ulcers* on the legs may be brought to afford, as freely as sores seated any where else. He recommends the hydrargyr. nitrat. R. finely levigated, as one of the best applications for this purpose. He adds, that this powder must not be lightly sprinkled on the sore; when its surface is ill-conditioned, but the *ulcer* must be filled with it. This writer speaks of a species of *ulcer* which is usually small, and particularly affects the parts about, and sometimes below the ankle; it is exquisitely painful. In this case, as in others, he asserts, that rest is not necessary to the cure; but instead of confinement, he carries the roller several times over the ankle and foot, so as to leave no part but the point of the heel uncovered, and

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thus a tolerable compression is made below the *ulcer*. He farther adds, that cases of this sort, are often attended with considerable puffings, and a tetterous appearance of the surrounding skin, accompanied with a thin acrid discharge, which renders the parts additionally tender; whilst the little ulcer is almost perfectly dry, and cannot easily be brought to suppuration, until the complaint of the skin is removed, which is most speedily effected by drying applications, such as bol. armen. alum. pulv. ungt. rub. desic. and in more obstinate cases, a solution of the ceruss. acetat. and zincum vitriolatum, with one or two ounces of the sp. vini. c. in a pint of water. If the sore does not soon change its complexion, on the disappearance of the affection of the skin, he advises to fill the *ulcer* with precipitate, dissolved lunar caustic, or any similar escharotic, and when the slough is come out, to repeat it. Here he says, that these caustics are only to be used after active digestives, aided by proper bandages and exercise, prove ineffectual. Lastly, he recommends in the healing of *ulcers* in the legs, particularly those of long standing, that the surgeon proceed slowly and cautiously, avoiding the too early use of drying applications, and gradually weakening the digestive. It may be laid down as a general maxim, that the sore should rather be suffered, than invited to skin over. When the ulcer is healed, temperance, a continuance of the bandage for some time, and occasional purgatives, will be necessary. On this particular species of ulcer, vide the Lond. Med. Obs. and Inq. vol. iv. p. 347, &c. and Rowley's Essay on the Cure of ulcerated Legs. Underwood's Treatise upon Ulcers of the Legs.

Ulcers in the Tonsils. This disorder is far less frequent than is supposed. Dr. Hunter observes, that the tonsils open over all their surface, by small orifices which emit a slimy mucus; and that when they are inflamed, the mucus being purulent and white, and

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and the surface irregular, there is the appearance of ulceration, when, in reality, there is none. Not to be deceived in this case, desire the patient to wash his mouth and throat well with some proper fluid, before you determine whether or no ulcers are here. When ulcers are formed, they may be touched with mixtures of honey, alum, borax, muriatic acid, &c. according as their cause, or attending circumstances may require.

Ulcers in the Womb. Whilst a viscid, yellow, or bloody humour is evacuated, the ulcer is in a mild state; but when it becomes fomous, foetid, and is attended with pain, a cancer is for the most part attendant, and then palliatives only can be proposed. In the milder kind, keep the belly lax, with manna, tamarinds, and such like cooling purgatives, and inject an infusion of elder flowers in milk and water. When the case is cancerous, demulcent and lenitive medicines, with anodynes to moderate the pain, are all that can be proposed.

Vide *Bell's Treatise on Ulcers*, also, his *System of Surgery*; *Heister's Surgery*; *Pott's Works*; and *Kirkland's Med. Surg.*

URETHRA; from *ἀρόν*, urine. The inner membrane of the *urethra*, or passage for the urine from the bladder, is a continuation of that which lines the bladder.

Sometimes a **STONE** is fixed in some part of the urethra, vide article **CALCULUS**; this produces pain, then inflammation, tumefaction of the parts, and always a partial and frequently a total suppression of urine. In some instances, when the disorder is long neglected, this suppression and consequent tumefaction, terminate in a rupture of the *urethra*; in consequence of which, the urine escapes into the contiguous cellular substance, and very troublesome swellings are produced, not only in the body of the penis, but frequently in the scrotum, and through the

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the whole course of the perinæum. When a stone has been long fixed at one particular part without yielding in any degree; and when the pain and inflammation produced by it are considerable, a chirurgical operation ought to be immediately employed for removing it; but, in the incipient stages of this disorder, other means of a more gentle nature should be first put in practice. In order to solicit the passage of the stone, one important endeavour is, to remove spasm; with this view, if the patient is plethoric, bleed; if he is thin and emaciated, a proportionable quantity of blood should be taken by means of leeches, directly from the part affected. A quantity of warm oil should be repeatedly injected into the *urethra*, to lubricate the passage; the patient should also be immersed into a warm bath; and a full dose of the tinct. opii. should be at the same time given. A proper quantity of blood having been discharged; the patient having remained for a sufficient length of time in the warm bath; and the opiate having begun to operate, the parts will thus be as completely relaxed as possible: and this is the period when some attempt should be made for extracting the stone. To this end, instead of any of the instruments recommended for this purpose, which often do harm by increasing irritation; the surgeon should at first endeavour, by very gentle pressure, to push the stone forward along the course of the *urethra*: in this manner, large stones may be brought off, for the removal of which a very painful operation might otherwise be necessary. When the stone fills up the *urethra*, or notwithstanding the use of means as above, it will not pass, it will be necessary to proceed to the operation, which is performed by cutting upon the stone, and extracting it either with a scoop or with a pair of small forceps. When the stone is fixed in the *urethra* near the neck of the bladder, lay the patient on a table, secure him as for the operation of lithotomy:

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tomy: an assistant suspending the scrotum and penis, the surgeon, after oiling the first and second fingers of his left hand, should introduce them into the anus, and by means of them, ought to press firmly upon the parts immediately behind the stone; which will not only enable him to lay it bare with more ease, but will be the surest method of preventing it from being pushed into the bladder by the necessary pressure of the knife; this being done, an incision ought to be made through the common integuments and *urethra*, so as to lay the stone completely bare; which may now be either turned out by a due degree of pressure applied with the fingers in the rectum; or, if this is not found to be sufficient, it may be taken out either with a scoop, or with a pair of forceps. The after-treatment is the same as after the operation of lithotomy. When the stone has passed farther into the *urethra*, in order to extract it, the skin should be drawn as much as possible past it, either in a backward or a forward direction; and the stone being now secured in its situation by pressure, a longitudinal cut ought to be made directly upon it through the *urethra*, of a sufficient size to allow of its easy extraction either with the scoop or the forceps. The edges of the wound are now to be completely cleared of fabulous particles, and the skin allowed to regain its natural situation; by which means, if the operation has been properly done, the wound in the *urethra* will be entirely covered by skin that has not been injured; a circumstance which tends to render this operation by far less exceptionable than otherwise it would be; for thus the wound usually heals by the first intention. If the stone fixes near the point of the penis, as it sometimes does, if it is so near as to be observed by the eye, it may frequently be taken out with a pair of small dissecting forceps; and in order to facilitate the extraction, when it cannot be otherwise effected, the *urethra* may be somewhat

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somewhat dilated from its extremity, with the point of a scalpel. But if success does not follow, an incision must be made upon the stone, as where the *urethra* is covered with skin. Soft dressings should be applied to the wound ; and when the cure is nearly completed, a hollow bougie, a short silver tube, or a small catheter of the elastic gum, should be introduced into the *urethra*, in order to preserve it of a proper size. The worst situation, in which a stone can be fixed in the *urethra*, is just below the scrotum ; for if the stone either makes its way into the scrotum, or if it is necessary to make an opening into it with a scalpel, such large collections of urine are apt to occur, as commonly occasion much distress. To obviate this, as soon as a stone is discovered in this situation, the greatest attention ought to be given, either to get it carried farther into the *urethra*, or, if this cannot be effected, to push it back into the perinæum by means of a staff. If either of these are impracticable, and it is necessary to extract the stone, an incision must be made into the *urethra*, by beginning the cut at the under part of the scrotum, immediately to one side of the septum, and continuing it upwards till the stone is distinctly felt, when it is to be laid bare and extracted as above directed. In applying the dressings after the operation, conduct them so as that the sore may heal first at the bottom ; if this is not duly attended to, the parts below will be filled with matter, or perhaps with urine, and thus very troublesome sinuses may be formed. In females the *urethra* is short, and dilates readily, so that stones rarely are detained in it : but when they do, they generally may be turned out by passing the end of a blunt probe behind them, and then pulling forward : or if this does not succeed, the end of the *urethra* may be slit a little way so as to admit the introduction of a pair of forceps, by which the stone may be extracted. Vide *Bell's Surgery*, vol. ii.

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VAGINALIS, in *anatomy*, is the passage from the external pudenda to the mouth of the uterus. The *vagina* is sometimes too narrow; this may be either natural, from original conformation, or accidental, in consequence of disease. Cicatrices may be formed from a laceration after severe labour; in consequence of ulceration, erosion, &c. Preternatural constrictions may be induced from the use of styptic applications, or fumigations. The cure may be attempted by emollient fomentations, as by the steams of warm water directed to the parts; and by introducing a small tent of compressed sponge. If these fail, recourse must be had to the knife: though, in the simple contraction of the cavity of the *vagina*, this expedient is seldom necessary, and the attempt is often attended with the utmost danger; therefore should never be determined on until every other method has failed. The dilatation, which was previous to impregnation, has very often been accomplished by labour-pains. Sometimes there is a natural defect, so that the *vagina* is either imperforated altogether, or a foramen only remains sufficient to transmit the menstrual blood. If, from a coalition of the parieties of the *vagina*, the passage be entirely shut up, an attempt to force it would be vain. The orifice in the latter case will afford a proper direction for the knife; but the operator must be cautious not to mistake the urethra for the passage into the *vagina*. When the *vagina* is impervious altogether, the uterus has been sometimes found wanting.

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VOMICA PULMONUM, Abscess of the Lungs. This disorder, we are told, often takes place, without any previous complaint. Its cause is, in general, inflammation. If it is not deeply seated, it bursts into the cavity of the breast, and forms an empyema. This will require the operation directed under article EMPYEMA, for its removal. If the matter is deep, the rupture will be into the bronchia; to solicit the discharge this way, the patient should receive the vapours of warm water into his lungs frequently. The cough may occasionally be excited by snuffing a little vinegar into the nose. The diet should be light and nourishing; a sea-voyage and riding on horse-back are particularly useful.

In cases of wounds in the lungs, matter is often formed in their substance; sometimes it is discharged in the ways already mentioned, and sometimes bursts into the wound. When it is ascertained that a collection of matter points towards the wound, either by the pus oozing, or by introducing the finger between two of the ribs, Mr. Bell advises the external opening of the teguments and intercostal muscles to be enlarged, then introducing a finger to discover the abscess, run a bistoury along the finger, and push it slowly into the abscess, at whatever depth it may be. When the matter appears, lay the abscess as freely open as may be necessary, for its complete evacuation. After this a proper aperture must be preserved by the introduction of a leaden tube of a round oval form, and with a broad brim. Solid tents, when they do not prevent the matter from discharging, may be used instead of tubes. Vide *Bell's Surgery*, vol. v. and *Percival's Observations*.

VULNUS, a Wound. Mr. Bell says, "Every recent solution of continuity in the softer parts of the body, when attended with a corresponding division of the teguments, may be denominated a wound."

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There are different species of wounds. 1. *Simple incised wounds.* 2. *Punctured wounds.* 3. *Lacerated or contused wounds.* 4. *Gun-shot wounds.* And 5. *Poisoned wounds.*

In order to the cure of a simple incised wound, remove the effused blood with a sponge, pressed out of moderately warm water. If a considerable arterial hæmorrhage, secure the vessel by a ligature. Remove every extraneous body, if it can be done with prudence; extract it with your fingers, if possible, otherwise with the forceps, in doing which, place the patient in such a position as effectually tends to relax the injured parts. When a lead ball is the substance lodged, if it cannot be easily removed, it may be left. But a splinter of wood, glass, iron, or cloth, should be removed as soon as possible after the injury is inflicted. This done, the lips of the wound must be brought together as nearly as possible, and so retained by adhesive plasters, if the wound is not deep; but otherwise, the interrupted suture must be employed. Mr. Bell recommends the twisted suture. The dressings may be pledgets of soft lint, covered with one of tow, spread with some digestive ointment, and large enough to cover the whole; these may be secured by such bandages as the situation of the wound will admit; the first dressings usually remain two or three days, or until the discharge of matter renders the separation of them easy. After the first dressings are removed; the dressing may be repeated every twelve or twenty-four hours, according as the discharge is more or less abundant or acrid. If, after the first dressing, a warm digestive is required, add to the ung. resinæ. flav. a little of the ol. tereb. vel bals. capiv. These applications need not be warmed, except when very cold; after spreading the pledgit, its surface may be just warmed by holding before the fire; each time that the surface of the wound is cleansed, it should be performed by dabbing it gently

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with soft lint, and not wiping it, lest the tender granulations should be injured; neither should the surface of the wound be totally freed from the matter, as it probably serves as a matrix for the granulations.

Mr. Sharpe observes, that the principal interruption to the healing of a *wound*, made with a sharp instrument, is the fungus; and this he would have suppressed by dry lint, and a proper compress upon it; or if it advances above the surface of the skin, to touch its edges only with some gentle escharotic; but it sometimes happens that an obstruction to healing is the flabbiness of a *wound*, and which is generally removed by dabbing it at each dressing with the following, or some such application: R Aq. calcis sim. $\frac{1}{2}$ ss. tinct. cor. Peruv. sim. $\frac{3}{4}$ ij. tinct. myrrh. $\frac{3}{4}$ j. m. Thus, if an ill constitution or bad habit of the body is no impediment, *wounds* on the exterior parts are generally soon healed.

When the *wound* is filled up with flesh, pledgets of the cerate of lapis calaminaris usually effect the last intention of cure, or the cicatrizing of the *wound*.

There are many accidents which occasionally are attendants on *wounds* in one stage or another, such as fever, inflammation, a callus, &c. These are to be removed by the means directed in article INFLAMMATIO, &c.

Punctured Wounds, are those made by a small pointed instrument, the external aperture being small and contracted in proportion to the depth. Mr. Bell says, in the treatment of punctured wounds, our views should be the same as in cases of sinus; which are, to procure a reunion of the divided parts; to this end, in superficial wounds of this kind, where we are certain of extracting any extraneous matter, and where the inflammation is moderate, compression so applied as to keep the parts to be united in close contact, may be employed with advantage. But in *wounds*

wounds of importance, Mr. Bell's practice is, when they run in such a direction as to prevent a seton from being carried along their whole course, to open them immediately from one extremity to the other, as far as can be done with safety, either with a probe-pointed bistoury, or with a scalpel and a director, and then dress them as simple incised wounds. But when a seton can be used, emollient poultices are employed till a free suppuration is induced, and there is no probability of inflammation proceeding too far. A cord is then introduced nearly equal to the size of the opening, and allowed to remain, till any extraneous matter is discharged; it is then gradually lessened by withdrawing a thread or two, every two or three days, till it is reduced to a third or fourth of its original thickness, and then taken out entirely.

The best practice, perhaps, in every case of punctured wound, is (where it can be done with safety) to enlarge it immediately, and more particularly in those cases where the wound has been received by a small sword, or a bayonet. When, from the contiguity of large blood-vessels and nerves, it may be unsafe to lay the wound open, and when the situation of the wound will not admit of a counter-opening, for the introduction of a seton, we must trust to a proper application of pressure.

If the external aperture seems disposed to heal, before a similar tendency appears in the bottom of the sore, tents must be employed of a prepared sponge, or other such materials. Mr. Bell, however, recommends leaden tubes for this purpose, but we should not be too hasty to adopt either.

Lacerated or Contused Wounds. For the treatment of these in the early stage, vide article **CONTUSA**; and should a gangrene ensue, the means directed in article **MORTIFICATIO**, must be had recourse to. Vide *Bell's Surgery*, vol. v.

Gun-shot Wounds. Vide **SCLOPETOPLAGA**.

Poisoned Wounds. Whatever may be the nature of

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the poison received by a wound, whether venereal or cancerous matter, or from the bite of a venomous animal, the same mode of treatment as directed in article HYDROPHOBIA, should be adopted. Vide *Bell's Surgery*, vol. v.

Wounds in the Veins. A proper application of pressure is generally fully adequate to check the haemorrhage from a vein; but where pressure does not answer, or it cannot be applied from the vein being cut entirely across, a ligature should be employed. Some direct escharotics, and some use the actual cautery, but the ligature is most to be depended on. A wounded lymphatic requires the same treatment. Vide *Bell's Surgery*, vol. v.

Wounds in the Nerves and Tendons, and Ruptures of the Tendons. When from violent pain, inflammation, and convulsions attending a wound, there is reason to suppose a nerve or tendon is partially divided, and large doses of opium have been administered without effect, the injured nerve or tendon should be immediately completely divided. Wherever a wounded tendon may be situated, or where it is only ruptured, without any injury having been done to the external parts, the limb should be placed in such a manner, as will most readily admit of the retracted ends of the tendons being brought nearly together, and when in this situation, the muscles of the whole limb should be tied down with a fine flannel roller, so as to prevent them from exertion during the cure; at the same time, the position of the limb must be such, as to keep them effectually relaxed. Though the roller must be firmly applied, it must not be so tight as to impede the circulation. Vide *Bell's Surgery*, vol. v.

Wounds in the Ligaments. The object in these wounds is to prevent the admission of air into the joint. In simple incised wounds, it may frequently be effected by bringing the lips of the wound together, and

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and retaining them so, by the dry suture, and proper bandages. But in lacerated wounds, this mode cannot be adopted; our views, then, must be, to prevent inflammation, by plentiful bleeding, &c. while any of the simple ointments may be applied to the wound. The steams of warm vinegar may, perhaps, greatly assist in preventing the formation of pus. The pain in the joints is allayed by large doses of opium, and a fomentation of white poppy-heads often answers the same purpose. If a deposition of matter takes place, an opening (as soon as it is ascertained) should be made in the most depending part of the collection, and this should be done as often as any new collection appears; by this method, and the use of emollient fomentations and poultices, a limb may sometimes be saved. But most frequently the only means of relief in these injuries, is amputation.

It should be remarked, that in the most simple injuries of the ligaments, the prevention of inflammation must be attended to. *Vide Bell's Surgery, vol. v.*

Wounds in the Trachea, and Oesophagus. In either of these cases, the first step necessary is to stop the haemorrhage by ligature, whether it be from an artery or a vein. In longitudinal wounds of the trachea, the divided parts should be brought together by adhesive plasters, and those alone have often effected a cure. But in transverse wounds, except when slight, adhesive plasters will not answer; the interrupted suture, with broad ligatures, must be employed. Mr. Bell says, instead of passing the ligatures round any of the cartilages of the trachea, and thus carrying them into its cavity, he has succeeded by external stitches, that is, by inserting a needle at one side of the wound, and passing it slowly up, for about an inch between the trachea and the skin, including all the intermediate cellular substance, and muscular fibres,

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fibres, then pushing it out, along with one end of the ligature; after this, a needle at the other extremity of the thread must be passed through the teguments on the opposite side. As many ligatures as may be necessary being introduced, the divided edges of the cut should be properly supported, and the ligatures secured by running knots: adhesive plasters must be laid over the whole, and the head must be kept as much as possibly bent upon the breast, by means of a bandage.

Wounds in the Oesophagus are to be managed nearly in the same manner as those of the trachea. It is, however, necessary in these cases, if the wound is not extensive, that it should be enlarged in every direction that may be necessary, to bring the injured parts to view. *Vide Bell's Surgery*, vol. v.

Wounds in the Thorax. These wounds are divided by Mr. Bell into three kinds, viz. Those which merely injure the common teguments; those which penetrate into the cavity of the thorax, without affecting the viscera, and those in which some of the viscera are hurt.

Wounds of the external Teguments. If these do not penetrate farther than the skin and cellular substance, they require no other treatment than similar wounds in any other part of the body. But when they run among the muscular fibres, between the ribs, like sinuses, there is a probability, if any matter forms, and is not regularly discharged, that it may ultimately make its way through the pleura; to prevent this, we must give it free vent. In open incised wounds, the lips must be prevented from healing, till they are filled with granulations from the bottom. But punctured wounds require the treatment already directed under that article. The regimen of the patient must be particularly attended to, and inflammation prevented. *Vide Bell's Surgery*, vol. v.

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Wounds which penetrate the Cavity of the Thorax.
The first object here is to check the hæmorrhage from the intercostal artery, which in thin people, may be done by drawing it out with a tenaculum, and applying a ligature; but where this cannot be done, pass a ligature round the rib, and with it, tie a dossil of lint upon the bleeding artery. This done, the air, which has rushed into the wound, must be expelled; to which end, desire the patient to make a full inspiration slowly, and instantly draw the skin over the sore. Now bring the lips of the wound exactly together, and secure them in that situation by slips of adhesive plasters, and proper bandages. In this way these wounds will often heal. Sometimes an oppression of breathing comes on, either from a quantity of blood having been thrown out, or from a collection of pus. If the symptoms are moderate, we should trust to the fluid being absorbed; but, otherwise, an opening must be made. Vide article **EMPYEMA**, and *Bell's Surgery*, vol. v.

Wounds of the Lungs. Emphysematous swellings in the contiguous teguments, the quantity of blood discharged being considerable, its being of a deeper red than common, and frothy, also a discharge of blood from the mouth, indicates a wound in the lungs. It should be observed, that emphysematous swellings may arise, without the lungs being wounded, as they may be formed by the external air passing between the lungs and the pleura. There are but few instances of the lungs healing with ease and safety. To check the hæmorrhage, bleed the patient till fainting is induced; keep him in a cool apartment, in a perfect state of quietude; direct cooling laxative medicines, and low diet. If abscesses form in the substance of the lungs, the treatment must be as directed in article **VOMICA PULMONUM**. Vide *Bell's Surgery*, vol. v.

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Whichsoever of the viscera in the cavity of the thorax is wounded, venesection must be freely employed. In every variety of penetrating wounds of the thorax, says Mr. Bell, where the cure is not accomplished without the formation of matter, they are apt to heal slowly; and in some cases, especially where abscesses have formed, a stillicidium of matter will continue for many years, and in some cases, for life; but however tedious and disagreeable this may be, injections should never be employed.

Wounds in the Abdomen. Mr. Bell distinguishes them in the same manner as those in the thorax.

Wounds of the Teguments and Muscles of the Abdomen. Wounds of this kind are not of more consequence than similar affections in any other part of the body. But the contiguity of the viscera, and the possibility of their being injured, from the mismanagement of the external wound, renders them of importance. The treatment of these wounds should be nearly the same as directed in wounds of the external teguments of the thorax. The patient should be kept in an horizontal posture, during the whole of the cure, and the parts, when he attempts to walk or sit, should be supported by a compress, and a flannel roller; and this should be continued for some time after the cure. *Vide Bell's Surgery, vol. v.*

Wounds which penetrate the cavity of the Abdomen, without injuring the contained Viscera. The danger likely to arise from wounds of this kind, is from the air finding access into the cavity, and inflaming its contents; and from a collection of pus within the peritonæum. To prevent these effects, after stopping the hæmorrhage by ligature, bring the lips of the wound together, secure them by adhesive plasters, a compress, and flannel roller. A strict antiphlogistic regimen must be directed. Should there be a large deposition of matter, producing bad symptoms, it

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must be evacuated by the trocar, introduced in an oblique direction. The same precautions are necessary here as are suggested in article PARACENTESIS.

Sometimes the bowels protrude, when a wound penetrates the cavity of the abdomen. They should be immediately returned: and if the wound is not sufficiently extensive for this purpose, it should be enlarged. If any sand, dust, or other extraneous matter is upon the protruded parts, they should be bathed with warm milk or water, before they are returned, but never otherwise. If the bowels protruded are inflated, the air must be cautiously pressed into that portion which is in the abdomen. The bowels being replaced, we may prevent their falling out again (if the wound is small) by a roller, and placing the patient with his head and buttocks elevated. Costiveness must be prevented. But when the wound is extensive, sutures are necessary to bring its sides together. For the method of doing it, vide article GASTRORAPHIA. If the ligatures occasion tension, they must be untied, and that symptom removed, by bleeding, fomentation, &c. before they are again drawn together. Vide *Bell's Surgery*, vol. v.

Wounds of the Alimentary Canal, are known by the discharge of blood from the mouth and anus; from the faeces being discharged at the wound in the integuments, and foetid air from the wound; also, by nausea, sickness, acute pains in the abdomen, cold sweats, and faintings. If the wounded part is not in view, the treatment is the same as recommended in wounds which merely penetrate the cavity. If it is protruded, the opening must be sewed, before the gut is returned. For this purpose, Le Dran recommends what he call the Looped Suture; but the general practice is, to effect it by the Glover's suture.

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Mr. Bell says, both these sutures tend to diminish the diameter of the gut, and thinks this operation should be done by entering a small fine needle, armed with a thread of silk, from the inside of the gut, and pushing it outward. The operation should commence near to one end of the wound; the needle being pushed through one side of the gut, the ligature should be drawn forward, and retained by a knot formed on the end, remaining in the inside. The needle must now be carried straight across, and entered in a similar manner, so as to pierce the opposite side of the wound also from within. As many stitches being thus made as may be necessary, the end of the ligature may be secured, and cut off close to the other extremity of the wound, if the gut is to be put freely into the abdomen; or it may be left of a sufficient length to hang out at the wound of the integuments, if the wounded part of the intestine is to be kept in contact with the external opening. It is not, however, adviseable to leave the ligature out of the wound; but to prevent the fæces from being emptied into the abdomen, the injured part may be retained in contact with the wound in the abdomen, by means of the thread used for the ligature.

If the gut is cut entirely across, and protrudes at the wound, the two ends may be stitched to the peritonæum, and abdominal muscles, exactly opposite and contiguous to each other; the dressing of the outward should be as light as possible. Another mode of treatment is, to insert the upper extremity of the divided gut into the end of the other, and stitch them together. In doing this, the gut should be extended by some round body; some recommend a tube of paper, or thin pasteboard for this purpose; but Mr. Bell advises a small roll of tallow; a piece of it nearly equal in diameter to the intestine, should be inserted into the end of the upper portion of the gut, then pass

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pass it fairly into the other, to about the extent of an inch ; then stitch the two ends together, carrying the stitches round the gut, perhaps twice round would afford a better chance of success.

Sometimes, only one portion of the divided gut protrudes ; in this case, it is advised to stitch it to the peritonæum ; and should it prove the upper part, the patient may recover, with the inconvenience of an artificial anus. But should it prove the under portion, though death would certainly ensue, it is almost generally advised not to proceed any farther. Mr. Bell, however, says, the divided portion in the abdomen should be sought for, by enlarging the external opening, sufficiently to admit the operator's fingers. *Vide Bell's Surgery*, vol. v.

Wounds of the Stomach. If the wounded portion does not protrude, it should be sought for, stitched up, and replaced. Inflammation must be prevented, and the patient sparingly fed. *Vide Bell's Surgery*, vol. v.

Wounds of the Omentum and Mesentery. If the injured portion of omentum is nearly separated from the rest, or has a tendency to gangrène, remove it, otherwise immediately return it into the abdomen. *Vide article BUBONOCELE.*

In wounds of the *mesentery*, whatever vessels are divided, must be immediately tied with ligatures, and the ends left out at the wound. *Vide Bell's Surgery*, vol. v.

Wounds of the Liver and Gall Bladder. Wounds of the liver are distinctly known, by bile being discharged with the blood ; bile tinged with blood being discharged by the stomach and anus ; the belly becoming swelled and tense, with a pain on the top of the shoulder. The treatment is, to prevent excessive haemorrhages by venesection, eccoprotics, and keep the patient cool and quiet. If bile or blood collects

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in the abdomen, make an opening in the most dependent part of the collection.

Wounds of the Gall Bladder seldom terminate favourably; any collections of bile in the abdomen, must be evacuated by an opening. Vide *Bell's Surgery*, vol. v.

Wounds of the Bladder. If the under part of this viscus is wounded, apply simple dressings, endeavour to prevent inflammation by bleeding, and keep the bowels lax.

If the upper part is wounded, it should be stitched either with the glover's suture, or as directed in wounds of the intestines; and if the wound is in the anterior part of the bladder, it may be brought to the external opening, and stitched to the contiguous parts. Vide *Bell's Surgery*, vol. v.

Wounds of the Uterus. Wounds of this viscus, when unimpregnated, are similar to wounds in the contiguous parts. But during pregnancy, symptoms of abortion will be produced: this should not be prevented; when they do not occur, and the patient is likely to sink from loss of blood; the child should be taken out, either by the Cæsarian operation, or by enlarging the external wound, and that in the uterus, sufficiently to admit of the child's being extracted. Vide *Bell's Surgery*, vol. v, also vol. i. and iii, *Goode's Practical Treatise of Wounds*. *Denis on Wounds of the Head*, and *White's Surgery*.

THE END.

